

# MANUFACTURERS' RECORD

A Southern Industrial, Railroad and Financial Newspaper.

Vol. XVI. No. 16.  
WEEKLY.

BALTIMORE, NOVEMBER 23, 1889.

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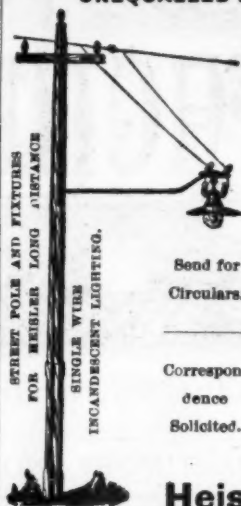
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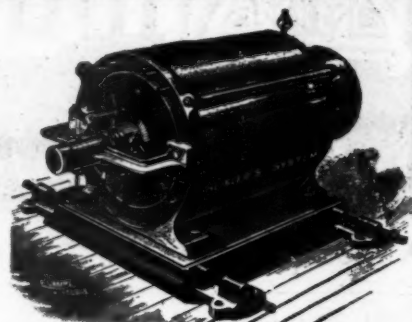
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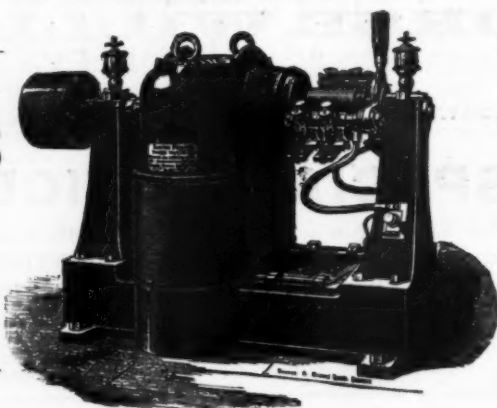
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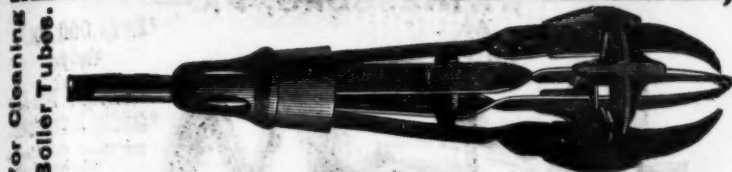


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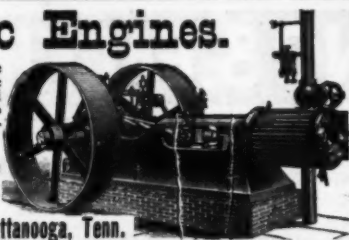
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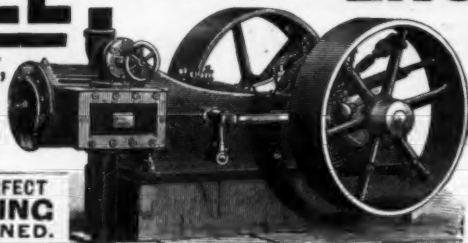
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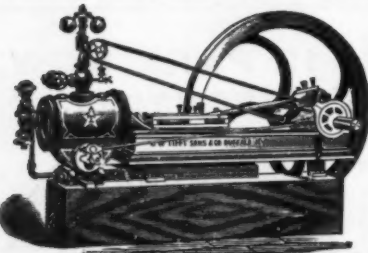
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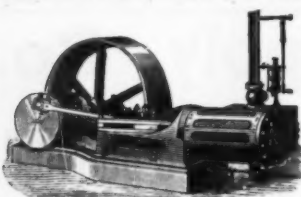
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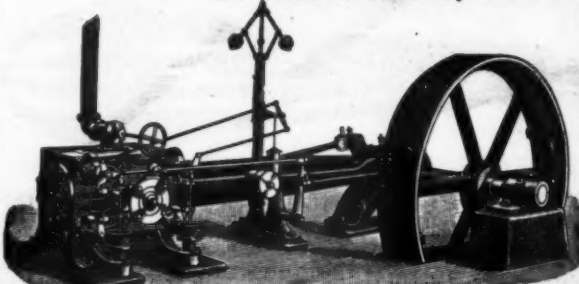
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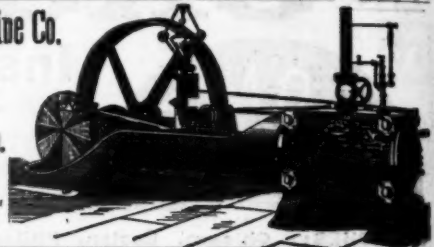
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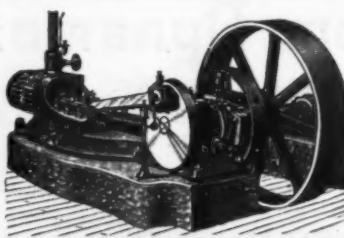
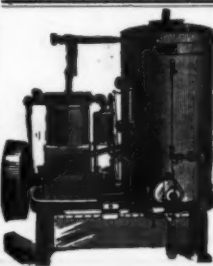
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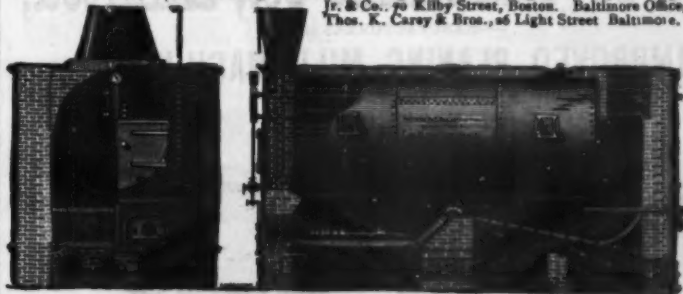


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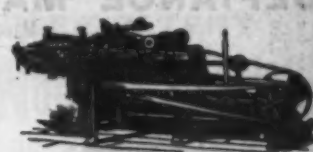
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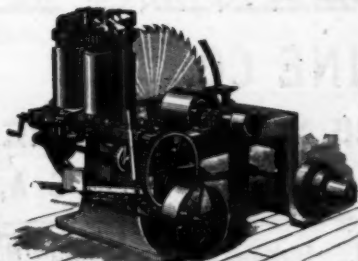
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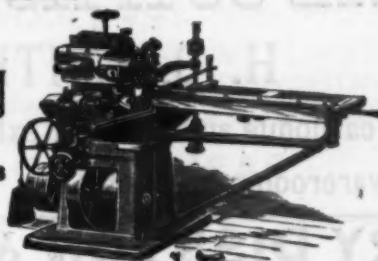
18C



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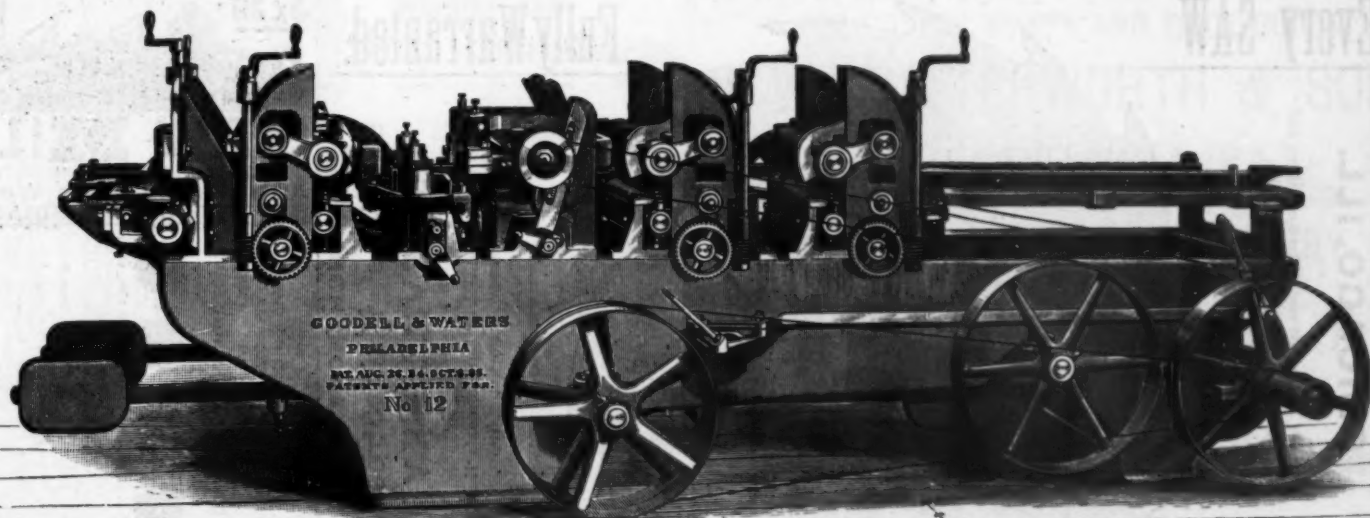
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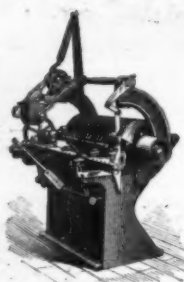
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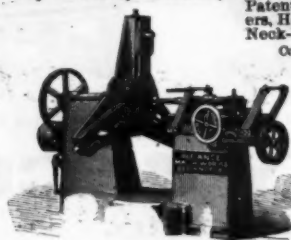
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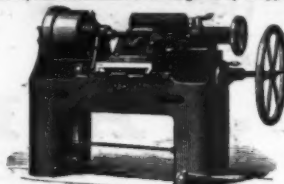
Complete Outfits Furnished, Estimates and Circulars given upon application



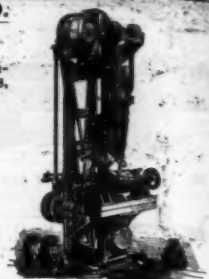
Patent Automatic Combined Spoke Turning and Squaring Machine for common, seven patent, or sharp-edged spoke turning. Capacity 2,500 per day.



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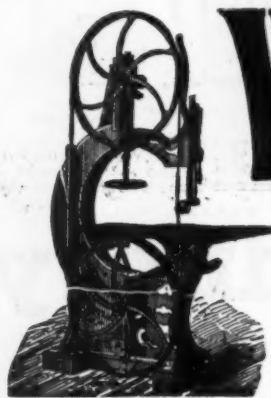


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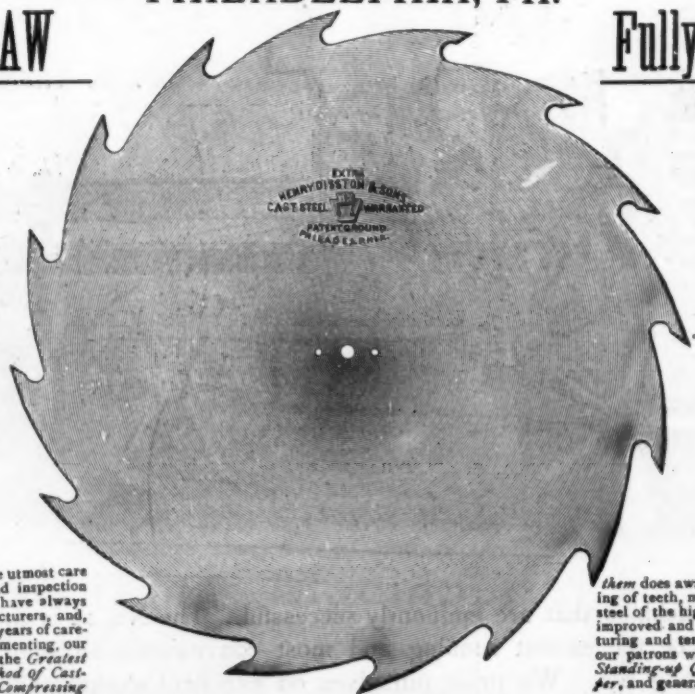
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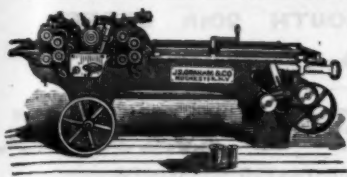
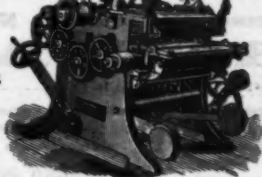
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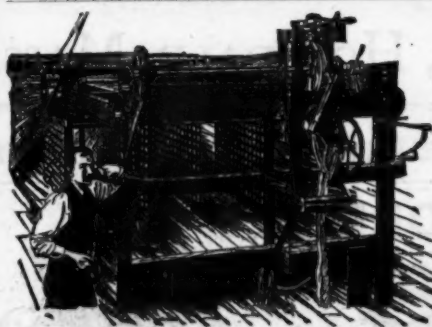
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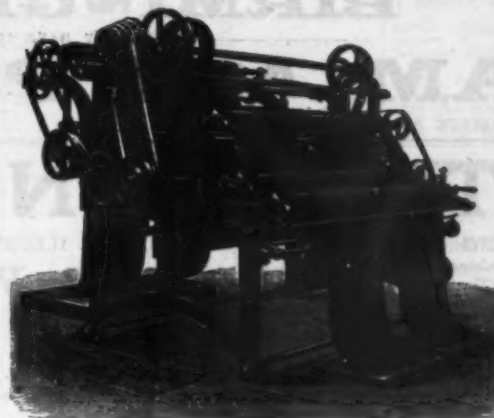
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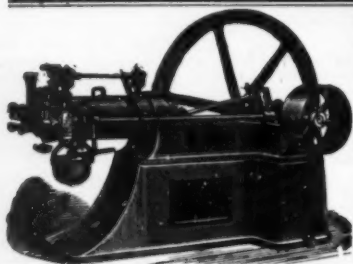
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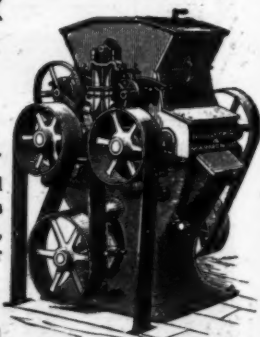
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# Manufacturers' Record.

PUBLISHED EVERY SATURDAY BY THE  
MANUFACTURERS' RECORD CO.

R. H. EDMONDS, EDITOR.  
WM. H. EDMONDS, BUSINESS MANAGER.

OFFICE,  
COR. EXCHANGE PLACE AND COMMERCE STREET,  
BALTIMORE.

NEW YORK OFFICE, - - - 132 NASSAU STREET.

THOMAS P. GRADY, Southern Staff Correspondent,  
Headquarters at FLORENCE, ALA.

SUBSCRIPTION, - - - - \$4.00 a Year.  
To Foreign Countries, - - - 6.50 a Year.

BALTIMORE, NOVEMBER 23, 1889.

## To Draw Capital South.

With a view to attracting the attention of the entire financial interests of the United States to the growth of the South, to the advantages of this section and to the opportunities for profitable investments of all kinds that are to be found in every State, from Maryland to Texas, the MANUFACTURERS' RECORD will shortly publish a "Special Bankers' Edition," a copy of which will be sent to every bank (national, State and private) in the United States, to loan and trust companies, brokers, leading insurance companies and financial institutions generally. Nothing of this character has ever before been undertaken in this country, and never before has such an opportunity been afforded to reach every financial institution in the United States. The value of this to the South cannot be overestimated. It will draw the attention of the entire banking and allied interests of the whole country to the marvellous advancement and possibilities of the South. For Southern bankers, owners of mineral and timber properties that are for sale, real estate agents, transportation lines, and all others who wish to reach the moneyed men of the whole country, this "Special Bankers' Edition" is the best advertising medium ever offered. It will result in attracting many millions of dollars to the South for investment, and in inducing many thousands of people to make a personal investigation of the advantages and the resources of this section.

THE Sheffield (Ala.) Enterprise, referring to the work of the Lady Ensley furnace at that place, says:

The furnace is 17 feet bosh and rated as of 125 tons daily capacity. Yesterday its production, carefully weighed, was 156½ tons, and for the past six days its production for each twenty-four hours has averaged 140 tons—15 tons more than its rated capacity.

To make this the furnace has consumed for each ton of pig iron:

Coke.....	2,100 pounds.
Ore.....	4,800 "
Limestone.....	1,200 "

Twenty-one hundred pounds of coke to make twenty-two hundred and sixty-eight pounds of foundry iron is an achievement of which any furnace in the country might well be proud.

## Rouse the Sleepers!

Although the South's industrial growth has passed from the domain of possibility to the realm of impressive actuality, there are many timid possessors of capital without her borders who confound business-like developments with speculative ventures and hesitate to take advantage of Southern opportunities for profit. The best corrective of timidity is confidence, and as the sum total of the South's confidence in her industrial future swells, the greater will be the ratio of increase in her material prosperity.

To the growth of this confidence every Southern community can more or less contribute. The inexorable logic of profitable production commands that, provided labor be obtainable, the factory be placed at the source of supply. The cotton and iron-working industries are bowing to the decree, but it applies as forcibly to other branches of manufacturing, of which the North has hitherto enjoyed a practical monopoly. The fierce competition of to-day is curtailing liberty of selection, and old seats of industry are abandoned for other fields. The new towns and cities of the South may be trusted to boom themselves. It is the older communities, many of them more or less decayed, that need to awaken to the demands of the times and catch step with the march of progress. The example of Charlottesville, Wilmington, Nashville, Little Rock and dozens more that might be named, many of which a decade ago were sunk in drowsy repose, sanction the awakening of almost any Southern community with the semblance of a future of industrial activity.

Combine home capital and put it into home enterprises. This is the keynote of progress. Confidence begets confidence, and practical faith in home ventures commands assistance from outside. Combine savings, great or small; invite skill from abroad and interest it by making its possessor a partner in ventures set on foot, and a beginning is made; and "the beginning is half the work." Tanneries, shoe factories, sash, door and blind factories, lumber mills, furniture factories; in short, all industries for which the South's widely diversified natural resources afford a prodigal supply, are within the reach of towns that are now asleep or content with the performances of past generations of residents. As for labor, employ what is available, and the demand will increase the supply.

But in setting on foot new enterprises of whatever character the mistake must not be made of attempting to carry on such without sufficient financial backing. One cannot successfully run a \$20,000 business on \$10,000 capital. Machinery and appliances, too, should be the best available. The best is the cheapest the world over, and much of the South's industrial supremacy will depend upon the modernness of its ma-

chinery. What *esprit du corps* or its *morale* is to an army, confidence in its future is to a community. Let the South's sleepy towns awake and profit by the opportunities which lie at their very doors in many instances, and the oldest of the Southern Commonwealths will be dotted in the near future with hives of industry as thickly as Pennsylvania and Massachusetts.

The foregoing could be elaborated so as to indicate where particular lines of industry might be promisingly undertaken, but it needs only a vigorous presentation of local possibilities at the hands of the local press to swell the tide of Southern progress into a flood of prosperity rivaling the golden streams of fabled Pactolus.

OWNERS of Southern Bessemer ore properties ought to have them thoroughly developed at once, and then make preparations for shipping ore. There is a great deal of Bessemer ore in the South which could be profitably shipped to Northern furnaces, and these ores are now in very active demand. The Iron Trade Review says:

Owners of Eastern steel mills are persistently inquiring for the price of Lake Superior Bessemer ores for next season, so as to enable them to fix a price upon steel rails. The Eastern manufacturers have never before cared for the price of Lake Superior ore, for which reason these inquiries at this time bear a deep significance. These manufacturers have learned that they will not be able to obtain foreign ores next year, and that they must, in consequence, depend upon their home product. The best possible confirmation of this view is found in the action of the leading New York firm of ore importers, which, when asked by Pittsburgh buyers for the price of next season's foreign ore, replied that it has engaged to send the ores it controls from the Mediterranean ports of shipment to England, where an advance has already been secured of \$2 a ton over the price of similar ores delivered in this country. The ore importations for 1889 fell far short of those of the previous year, and the 1890 imports will fall off at least 50 per cent. from this season's figures. If these statements are at all indicative of the future, 1890 promises to be the boom year of the Lake Superior region.

There is no reason why the South should not begin the shipment of Bessemer ores. Negotiations are pending for the purchase of Southern Bessemer ores by the Pennsylvania Steel Co., and doubtless contracts could easily be made with others if they had assurances of prompt shipment of high-grade ores.

THE Iron Age, referring to the furnaces now in blast in the South, says:

In Alabama, Talladega, a new stack, although running slow, has made what we believe to be the first Bessemer pig produced in the State, the iron carrying only 0.06 per cent. of phosphorus. North Alabama, at Florence, made its first cast during the month. Anniston, one of the new furnaces of the Woodstock Iron Co., was also started during October. Pioneer made a particularly good record during October, making an average of 853 tons a week. We question whether any furnace of equal size in the South has reached this mark. The Ensley furnaces, which are larger, did very well in October, and the two De Bardeleben furnaces, which are producing very regularly, beat their record in the same month.

## An End to Muscle Shoals.

The famed Muscle Shoals obstruction in the Tennessee river, like the rocks in Hell Gate, have vanished. The steam tug A. C. Conn, a side-wheel tug, with two barges drawing 3 feet of water, on Tuesday of last week passed through the Muscle Shoals canal from Decatur, Ala., en route to Chattanooga, Tenn. This was the first craft to pass the shoals, and her passage is an event of the utmost importance as precluding the continuous navigation of the Tennessee from Knoxville to its mouth at Paducah, Ky., thus affording cheap and constant water transportation to one of the most richly dowered and most rapidly developing sections of the Union.

The completion of the great engineering projects at Muscle Shoals, already described at length in the MANUFACTURERS' RECORD, has not as yet been formally announced, but the passage of the Conn shows that the work has been practically finished. The object of the work was to construct a canal around the shoals with a depth of three feet at extreme low water. Wonderful engineering and vast outlays of money have secured this result, and continuous navigation of the Tennessee has been secured. Upon the formal opening of the canal steamers and barges can be loaded on the Ohio and the Mississippi and their navigable tributaries with cargoes for the thriving towns and cities on the Tennessee, or what is more important, the coal, iron and other minerals, timber and agricultural products of the upper Tennessee valley can be cheaply transported to any point on the Ohio, Mississippi or Missonri and their navigable tributaries.

To Chattanooga, Florence, Decatur, Sheffield and other towns the opening of the Tennessee must prove of vast benefit. From Pittsburgh to New Orleans by water the distance is 2,067 miles; from Chattanooga to New Orleans 1,601 miles, a saving of 466 miles. From Chattanooga to Cairo, Ill., is 501 miles, and Cincinnati is but 34 miles nearer to New Orleans than Chattanooga. It costs at present \$1.05 per ton to carry coal from Pittsburgh to New Orleans, while from Chattanooga it will cost but from 80 to 90 cents. The Tennessee, too, never freezes and never fails from low water, and will have a depth of from 8 to 3 feet at all seasons, while the Ohio is obstructed during low water, and frequently is closed for considerable periods in winter. The securing of this great waterway to the people of the Tennessee valley is a benefit, the measure of which in its possibilities it is impossible even to conjecture. The region drained by the Tennessee is now undergoing a marvellous development, and the opening of the river must increase the range and the pace of its progress.

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## Simple But Startling.

Bottled daylight is a desideratum, but, if the discoveries of Mr. W. F. Ladd, of Galveston, Texas, as reported in the News of that city, prove to be as valuable in practical application as they are reported to appear from the standpoint of experiment, Edison must yield the wizard's wand to the Texan inventor, who, it is claimed, has solved the central problem of electro-dynamics, namely, the supplying of power and light at a nominal cost. The search for the primary battery has been as patient and as baffling as that of the alchemists for the "philosopher's stone." The dynamo has replaced Davy's cells, and the carbon loops and points his charcoal splinters, but the original problem of the effective primary battery has thus far remained unsolved. The conditions of the problem are known to the utmost nicety, but repeated failures have caused it to be ranked with that of perpetual motion, to be solved, if ever, by chance. The battery employed by Mr. Ladd, however, is claimed to meet and satisfy all the conditions of the problem and afford all the utility and power possessed by the costly dynamic machines, and that, too, at a ridiculously low cost. A battery of four small cells ran a sewing machine, kept electric lights of various powers burning, operated electric motors and performed other work requiring dynamic outfits. The representative of the Galveston News, who witnessed the working of the battery, describes it as follows:

It possesses all the usefulness and power of the cumbersome dynamic machines, while its cost is ridiculously low. It renders electric lighting cheaper than coal oil or gas, while it offers a motive power which the poorest workman can command. With the dynamo, the storage battery and the incandescent lamp, the scientific and industrial world might well have been content, and yet the discovery of this primary battery shows how little reason it had to be. The battery itself is a marvel of compactness and simplicity—a little box, scarcely larger than a cigar box. The elements employed are zinc and carbon. The zinc plates measure 3 by 3½ inches, giving a surface of about 21 square inches. The carbon is a rod 5 inches long and ¾ of an inch in diameter. The zinc is suspended from its center by means of a copper hook, and is completely immersed in the fluid. The solutions for the battery are: For the outer cell containing the zinc, 1 part strong sulphuric acid to 15 parts water; for the inner cell or porous cup the solution is prepared by mixing 8 parts sulphuric acid with 7 of water, and when cool adding Chili saltpeter to saturation. That is the whole thing.

The salient merits of the battery are said to be its effectiveness, its cheapness and its absolute safety, as it generates a low tension current. Mr. Ladd is reported to be organizing a company to develop his invention, the application of which will be looked for with interest. We merely call attention to the discovery reported, leaving it to experts to pass upon its practical possibilities. Like many great inventions it appears simple, but is none the less startling.

## Proposed Outlet for Southern Iron.

A dispatch from Birmingham, Ala., states that a movement is on foot there looking to the building of an air line railroad from that point to the nearest Gulf port, presumably Pensacola, and the establishment of a line of steamships to New York, Philadelphia and other Eastern ports. The object of the scheme is to provide a new outlet for the products of the Southern iron fields. The Ocean Steamship Co., of Savannah, and the Old Dominion Line, which handle much of the Southern iron, are taxed to transport it, and the need of additional facilities is becoming manifest.

Mr. Thomas Seddon, president of the Sloss Iron & Steel Co., and Judge H. G. Bond, manager of the Tennessee Coal, Iron & Railroad Co., and other prominent capitalists are at the head of the movement above mentioned. A meeting was held at Birmingham last week, but no regular organization was effected. The project, however, it is understood, will be brought to the attention of prominent railroad men and capitalists. The scheme, if executed, would prove of great value to its promoters and the region tributary to the road.

ALABAMA has made Bessemer pig iron, and is making it every day. That is one of the most important statements that the MANUFACTURERS' RECORD could make. It means that the South has practically laid the foundation for Bessemer steel, and Talladega has the honor of having done this. In our last issue it was reported that the Talladega furnace was making a grade of iron that was reported to be Bessemer. Not only is this true, but this iron is produced at a cost of \$9 a ton, and is being sold to Carnegie's works at \$17.50 a ton on the cars at the furnace. Many of our readers will doubtless feel disposed to question the possibility of making Bessemer iron in Alabama at \$9 a ton, but the MANUFACTURERS' RECORD has received this information from reliable authority.

THE Brunswick (Ga.) Times says that the MANUFACTURERS' RECORD is "the most remarkable and absolutely reliable industrial journal ever published in this country."

## What We Call Enterprise.

The MANUFACTURERS' RECORD is doing a great work for the whole South. Week after week it makes known the grand strides of the South in industry. It proposes now a plan to draw capital to this glorious Southern land. With a view to attracting the attention of the entire financial interests of the United States to the growth of the South, to the advantages of this section and to the profitable investments of every kind to be found in every State, it will issue a "Special Bankers' Edition," a copy of which will be sent to every bank in the United States. This is what we call enterprise.—Winnsboro (S. C.) News and Herald.

THE THREE GAPS,  
Cumberland, Big Stone  
and Pound Gaps,AND THEIR IMPORTANCE AS RAILROAD  
AND INDUSTRIAL CENTERS.Extensive Timber Resources Await-  
ing Development.

HEADQUARTERS  
MANUFACTURERS' RECORD'S  
EXPLORING EXPEDITION,  
BIG STONE GAP, VA.,  
November 16, 1889.

Morning and night in these mountains are seasons of meditation upon the liability of the human frame to feel the insidious approaches of winter. Once the sun gets up and has gotten in an hour or two of energetic shine, the atmosphere is simply delightful, and both invigorating and inspiring. Man and beast alike prink up with the effect of long and deep draughts of montane ozone, and life, which at break-fast time seemed gloomy under the combined influences of saleratus biscuits and fried meat, now puts on a more genial aspect, and the lingering nip in the air is no more objectionable than another nip is to the loyal son of Kentucky when he chances to cross a running stream in company with some fellow pilgrim.

The summer in these regions had its many charms, but they were frequently "sicklied o'er" with insectivorous discomforts. Now the gnat and the goad fly, not to mention the sociable flea, have taken themselves to winter quarters, and everything is serene. Indeed one ought to be pitied who cannot drink in enjoyment from autumn field life in the glorious Cumberland Mountain region.

For several weeks the leaves have been falling, a trick they have in the fall of the year, and the trees to which they were formerly attached are, consequently, in an improved condition for examination. Not of so much practical importance is the farther fact that now the foliage is pretty well gone, a thousand splendid vistas, views and cycloramas are disclosed that we could see nothing of in the months when the eternal hills were cloaked in verdure. Alas, it too often occurs to us that it is harder than a sinner's heart to get good money out of scenery, while there is ever sweet satisfaction in applying the principles of Mr. Scribner's system to merchantable timber.

The visible timber and lumber supply of Intermont and the Big Stone manufacturing district lie between the Black mountain and Stone mountain, the "divide" of the cross ridge called "Brushy" on the West and Princess Flats on the East; and in another body lying East of Stocher's Knob in the direction of Cumberland Gap. In a more general way all the considerable reaches of forest tributary to the line of the Louisville & Nashville Extension from Cumberland Gap to Big Stone Gap, also may be said to be tributary to Big Stone; although a part of the territory could be equally claimed for tribute to the industrial developments at Dillwyn Springs and Middlesborough. Reporting upon the timbers of this region, Mr. R. C. Ballard Thruston gives the following as possessing economic value:

White oak (*Quercus Alba*, L.), frequently reaching three feet in diameter, and occasionally four.

Post oak (*Quercus Obtusiloba*, M.), close grained, hard and durable.

Rock-chestnut oak (*Quercus Prinus* var *Monticola*, N.), useful only for bark. Is generally confused with the genuine.

Chestnut oak (*Quercus Castonia*), the timber of which is valuable.

Black oak (*Quercus Tinctoria*, B.). Bark valuable for tanning, for coarse dyes. The

wood is used in the manufacture of flour barrel staves.

Red oak (*Quercus Rubra*, L.). Used for some classes of staves, also for lumber.

Spanish oak (*Quercus Falcata*, L.). Not a large growth of merchantable size in this region.

Beech (*Fagus Ferruginea*, A.) is a heavy growth in and near bottoms of streams and branches. It is used in the manufacture of cheap furniture.

Chestnut (*Castanea Vesca*, L.). Useful for cabinet work; also much used for shingles, mine timbering, posts and fences.

Other local growths of importance are sugar maple, red maple, tulip tree, sycamore, buckeye, white walnut, black walnut (but little left standing), hemlock, red cedar, cherry, black birch, yellow birch, black and sweet gum, mulberry, catalpa, black locust, sassafras, dogwood, yellow or satin wood, American holly, white elm, slippery elm, ironwood, linden, cucumber, yellow pine, shellbark, black, white and red hickory, june-berry and spicewood.

So it will be observed that our friends at the Gap will start in on their timber, lumber and wood-working evolution with a full bill of fare. Considering the considerable extent and variety of the resource, in connection with fine water powers and the promise of early railway transportation for the higher forms of product, the conclusion is easy that the new settlements of the L. & N. extension are likely to make some stir in the lumber and cognate markets of the country.

Of the first of the two bodies of timber mentioned above as being directly tributary to Big Stone Gap, Professor Thruston's report gives the area at 40,000 acres: "The timber is very fine indeed but grows in groups, some individual acres of which contain as high as ten or twelve poplar trees from three to five feet in diameter, while others contain little else than white oak, and hundreds of acres on the tops of spurs and ridges contain only magnificent chestnuts and chestnut oaks. The hemlock is very abundant along the banks of the rivers and creeks, as magnificent straight-bodied trees frequently cover three feet in diameter and eighty to ninety feet tall." Professor Thruston estimates the foregoing body as to trees per acre and probable product in board measure feet as follows:

Timber.	No. of trees per acre.	Board measure, feet.
Yellow Poplar .....	1-2	4,000
Linden .....	1-4	200
Cucumber .....	1-4	200
White Oak .....	11-2	1,500
Chestnut .....	2	4,000
Black Birch .....	1-2	400
Yellow Birch .....	1-2	400
Hemlock .....	11-2	4,000
Total available feet per acre .....		14,700
Chestnut Oak .....	4-1½ cords bark.	

Of the second area, that from the neighborhood of Stocher's Knob west toward Cumberland Gap, the estimate is as follows:

Timber.	No. of trees per acre.	Board measure, feet.
Yellow Poplar .....	1-4	500
White Oak .....	1	1,000
Birch .....	1-4	500
Chestnut .....	21-2	5,000
Average available feet per acre .....		7,000
Chestnut Oak .....	6-2 cords tanbark.	

To people familiar with the subject these figures are sufficiently suggestive. There are many more which MANUFACTURERS' RECORD readers can have for the asking, through the proper channel. It surely looks as if the Northern and Western timber and lumber people ought to keep a watchful eye for chances of investment around these golden gaps! Big Creek, Cumberland and Big Stone are going to make a place in industrial history, and not on any small scale in connection with the forest resources of one of the richest mineral and timber regions in the whole Union. It is a strong temptation, when one is on the spot, and surrounded by all the optimistic influences of the place, not to absorb and accept the prognosis of the local operators and—real estate agents. In which case we must believe that a very short time will see



in Intermont a great manufacturing city, sully the pure mountain air with the fumes of an hundred furnaces, rolling mills, foundries and factories; surrounded on all sides by mines, lumber camps, saw mill plants—great Sanitaria roosting on all the neighboring peaks, while a dozen railways carry out the stuff and come back with their axles broken under a load of currency. Horace Greeley's advice is long obsolete. It is Big Stone and other Gaps in the Cumberland System that the blessed youth of our day and generation should seek. Which is a gentle reminder that we are under promise to throw in some remarks about Pound Gap in this very paper.

Pound Gap is an opening in the Pine mountain, something like 20 miles from the Breaks of the Sandy, to the Southwest. It has more than common interest and importance in its relation to the transportation question in these mountains. Firstly, because gaps of any sort are not plentiful in the immediate region, Pound Gap being the first practicable outlet for commerce from the Breaks down. Secondly, and so forth, because it is not generally believed that Pound Gap offers the physical conditions of a thoroughfare for all the railways and railway schemes that are, or are supposed to be, pointing for it. It is even possible that, what with approaches, on either side, it may be rather expensive for any railway to get through, and a longer or shorter tunnel of presumably hard rock will doubtless be among the necessities. But Pound Gap appears to be the logical point of approach for the line now building down the Big Sandy Valley to Pikeville, and equally for the Kentucky Union shoving over from the Blue Grass country, via Jackson in Breathitt county on the Kentucky river. The junction of the Louisville & Nashville with the Norfolk & Western at Princess Flats, near Big Stone, will put these systems in an excellent position to catch anything coming down from Pound, which is only twenty-five or thirty miles Northeast. Unless the Chatteroi or the Kentucky Union should get there first it would not surprise the writer to see another Southern corporation, already famous for its Napoleonic enterprise, send a tentacle of steel up through the opening, and thereby, dominate it and a whole grist of other things besides. I just mention it to show that Pound is not a mere ordinary everyday gap, but one of sterling worth, as, indeed, its name suggests. The report of the Kentucky Geological Survey prints:

Pound Gap is at the head of important branches of two great rivers, the Kentucky and Chatterawha or Big Sandy, which flow in widely different directions, in consequence of the slight, but well-defined anticlinal, which extends from the Gap westward. For this reason Pound Gap, though only cut deep enough for a good wagon road, is an important point in this long mountain barrier. With the development of railway systems to the East and South, it will become a more important point of convergence, especially from the valleys of the Kentucky and Licking rivers, which have for a separating watershed the extension of the Pound Gap anticlinal, as above described.

One of the chief local reasons for regarding Pound Gap as of coming importance, is its position with regard to the important Elkhorn Coking Coal basin. The mouth of Elkhorn creek is at a point close to the Breaks of the Sandy; its headwaters back up to Pound Gap. The basin extends along the creek and the waters of its branches, and for an indefinite distance North and West. It is reasonably certain however that the locality includes one of the most valuable coking coal areas in the coking coal field of Kentucky. We have seen, when the Expedition was up the Big Sandy Valley, how this Elkhorn Coal outcrops, near the mouth of the creek in seams of nine, twelve, thirteen and even sixteen

feet thick—with some partings of course. All over the basin the coal appears to be persistently thick, and to maintain the high character the Elkhorn analyses and other tests have given it. With an outlet to the South through Pound Gap, the Elkhorn coal and coke may be expected to reach many Southern markets, while the Kentucky Union and Chatteroi roads expect to strike the Ohio river, Louisville and Western points with it, at a cost making it possible to compete successfully with Connellsville and Pocahontas.

So much, in brief, as to the coal resources of the Pound Gap Country. As to iron I am unable to find as much encouragement. The limonite, sub-carboniferous ore is brought above drainage by the Pine Mountain uplift, and is identical with the surface ores of the Red River country. As these are not stratified, properly speaking, and as the extent of the surface or mass deposits has not been determined, the value of this resource will not probably appear very great at present. The theory that the Clinton red fossiliferous ore is also brought up above water level, may be correct, but the fact has not been demonstrated to any extent promising practical results. Without dogmatizing on the subject the chances appear to me to be very slim for any workable beds of the red fossiliferous to appear on the Kentucky side of Pine Mountain as far East as this. These points considered, it is perhaps unnecessary to give the analyses of the Pound Gap iron ores, which as a matter of fact, show up remarkably well as most of the limonites do, especially where they have been thoroughly weathered.

Before leaving the subject of the mineral wealth of Pound Gap, it may be well to observe that, no matter how important or valuable the Elkhorn basin may be to the district, it is by no means the only coal around the diggings. Below the Elkhorn horizon there are three veins of good coal respectively from 12 to 42; 36 to 60, and 12 to 36 inches thick. Above the Elkhorn and in order of position, the intervening strata being omitted, are the following (*vide Kentucky Geol. Rep.*):

Thick bed, Flat Woods coal.  
Amberg's seam, 80 inches.  
Thin coal.  
Large bed with many partings.  
Kiser's bed, 6 feet.  
Upper splint, 36 to 80 inches.  
Lower splint, 36 to 60 inches.  
Thin seam.  
(Elkhorn, 40 to 108 inches.)

All of which goes to prove that there is more coal in Kentucky than was previously dreamed of in our philosophy. In the region under consideration, and in counties adjacent, the available coal resource includes cannel of highly excellent character. To what extent further investigation may disclose the areas of cannel coals worthy of development, it is yet impossible to form any idea. Some large basins may very likely be found, as has apparently happened at Whitehouse in Lawrence county; in which event Pound Gap will acquire even greater interest in the eyes of the subjects of Old King Coal.

There is little to be written concerning the timbers of the Pound Gap region that hath not been also said and written of all the mountain countries north of Pine Mountain, from the Breaks of the Sandy, even to the Gap which is called Cumberland. It occupies a position in the heart of the biggest kind of a big tree country. The poplars, oaks and walnuts of Perry, Harlan, Letcher and Pike, are of gigantic growth and are in great demand. Probably Pound Gap may one day expect to become an outlet for one of the most splendid hardwood forest districts on the continent. No view of the Kentucky-Tennessee-Virginia timber and mineral regions can be considered complete without a liberal squint at the difficult but necessary interstate avenue known as the Pound Gap.

GOLDSMITH BERNARD WEST.

## Electric Lighting.

BY D. A. TOMPKINS.

When the electric light first occupied public attention a sort of panic ensued in stocks of companies whose business it was to furnish light by other means than electricity. Electric-light companies were formed one after another in quick succession. Many of the original ones have not survived to the present day, and few of those that have lived have made dividends.

The failure to get satisfactory results in so many cases brought on a sort of conservatism on the part of possible users of electric light, and through the period of this conservatism the companies offering the machinery to the public have been obliged to give most unremitting energy to the matters of inducing the use of their machinery, and especially to its improvement in directions to give better commercial results.

The early experiences of the companies furnishing electric-light machinery, in supplying machinery wherever a willingness to purchase was expressed, irrespective of possible success from the purchaser's point of view, and the naturally consequent failures and annoyances in so many instances, have all conspired to make manufacturers of electric machinery less careless of selling, irrespective of results, to anybody willing to buy, and more diligent in their efforts to remove imperfections in the machinery and appliances.

Like many new things, electric lighting came quickly into an undue popularity without much inquiry as to the conditions of its usefulness or commercial economy; suffered the usual reaction, and for a period made exceeding little advance into popular favor. Then commencing a healthy growth, based upon improvements in the machinery and a more careful business system on the part of patentees and manufacturers, it may be said now to have reached and to occupy a fixed commercial value, and its economy as compared with gas under the same conditions may be accurately determined.

As street car lines may be, under certain conditions, a better investment than stage coach lines, and vice versa, so there are conditions under which electric-light is cheaper than gas light, and vice versa. Two systems of electric lights, different in all characteristics except in that both are electric, competed for favor when they were first introduced before the public. Wherever light was wanted, representatives of both systems claimed ability to supply it successfully and economically. For some time the public was considerably confused as to the relative merits of the two different systems. The systems referred to are the arc and incandescent.

At a later period a third system of electric lighting was introduced—the alternating current incandescent system—and it is already very extensively used.

Time and experience have determined that the arc system is most suitable, and, generally speaking, only suitable for lighting streets and uncovered large areas, and possibly, in exceptional cases, large interior spaces. The difficulties with it are to achieve regularity and distribution. Much has been done to make the arc light less flickering, but it is far from being entirely successful in that respect yet, and practically nothing has been done in the way of a better distribution of it since its first introduction. It took the lead of the incandescent system in street lighting, and still holds its place in public popularity for that purpose.

Time and experience likewise quickly developed the fact that for interior lighting and for the purposes of factories, speaking generally, the incandescent light was the most suitable.

As between the two incandescent systems, the direct current system is most used for isolated plants where all the

lights are to be used near the machine, as in the case of a factory running a machine to make light in its own building.

Speaking from a commercial point of view, there are as many systems of electric lighting as there are makers of electric-light machinery, as for instance, the "Westinghouse system," the "Thomson-Houston system," the "Edison system," &c. Technically speaking, electric lighting may be divided into three systems, viz:

1. The arc system, in which currents of high pressure (500 to 3,000 volts usually) are used. The lamps are very brilliant, and are usually 1,500 to 2,000 candle-power each.

2. The direct current incandescent system, in which low pressure currents are used (usually about 100 volts). The lamps are usually 16 to 100 candle-power.

3. The alternating current incandescent system, in which currents of high pressure (usually about 1,000 volts) are used on the wires in the streets. The currents in houses are induced currents of 50 volts only.

There has been much controversy as to whether alternating currents are more dangerous to human life than direct currents, but no satisfactory conclusion has yet been reached.

Different currents have different effects on the same individual. The same current has different effects on different individuals, and the same current has different effects on the same individual in different physical conditions.

Add to the above the fact that many makers of machinery strain the truth in favor of the particular currents used by them, it will be seen how difficult it is to get reliable data as to the danger of different currents.

In general, it may be assumed that currents, direct or alternating, of three to four hundred volts may do injury to human beings; that currents of 600 volts may kill, and that currents of 1,000 volts and upwards always kill (possibly with rare exceptions).

In arc lighting, currents of 600 volts and upwards are used. Therefore arc light currents may be considered always dangerous.

In incandescent lighting by alternating currents, the 1,000 volts used on the mains in the streets are dangerous. The induced currents of 50 volts used in houses for the lamps are not dangerous. In direct current incandescent lighting the voltage is usually about 100, which is in no way dangerous to persons.

While high pressure currents are dangerous, they have the advantage that small wires are required to convey the currents to great distances. Therefore, the lights may be widely distributed without excessive cost for copper wire.

Low pressure currents are mostly used for single buildings and factories. For short distances the cost of wire is not excessive, and the simplicity and freedom from all danger are advantages.

The alternating incandescent system is best for central station purposes, or wherever it is desired to distribute lights over large areas, as for instance, where lights are required at a greater distance than about half mile from the station.

For the purpose of comparing the cost of electric light made with an isolated direct current plant, we will base our calculations on the following estimated cost of such isolated plants delivered and set up at an average distance from the place at which the machinery is manufactured, and under average conditions in a factory, hotel or other building:

ESTIMATED COST OF ISOLATED INCANDESCENT ELECTRIC-LIGHT PLANTS.			
No. of 15 c. p. Lamps.	Price of Electric Plant.	Electric Plant and Engine.	Electric Plant, Engine and Boiler.
25	\$750	\$750	\$1,000
50	975	900	1,400
75	1,050	1,075	1,675
100	1,075	1,075	2,000
150	1,100	1,600	2,500
200	1,250	1,850	2,850
300	2,250	2,450	3,450
500	3,400	3,700	5,000



The prices above given are for plants complete, the first column of prices being for equipments, where the power is furnished by a belt from the main shafting. The second column contains prices where an independent engine is put to drive the dynamo, assuming that steam may be had from a boiler already in use for other purposes. The third column contains prices for electric-light apparatus and engine and boiler all complete. For many manufacturing establishments, where sufficient extra power and a fair degree of regularity of motion already exist, the expenditure necessary to supply electric light would be that for the electric machinery only, with belt and pulley to drive it from the main shaft; whereas, at hotels or other places where steam power would have to be put in, the capital outlay necessary for an electric plant is necessarily much larger. In many cases where there is plenty of power and plenty of steam, it is best, even then, to put in a small independent engine so that the light may be kept up, although the machinery of the establishment may not be running.

Taking now a 5-foot gas-burner or the equivalent of a 16 candle-power incandescent lamp, and making a comparison on the assumption that the electric lamps are good for an average life of 600 hours' use, as guaranteed by all the makers, we obtain the following results for one hundred 16 candle-power lights operated for six hundred hours:

100 gas jets burning 5 feet gas per hour each equal 500 feet, and for 600 hours equal 300,000 cubic feet gas, at \$1.00 per thousand.....	\$300
300,000 cubic feet gas at \$2.00 per thousand.....	600
300,000 cubic feet gas at \$1.00 per thousand.....	300

The conditions under which gas may be furnished at a high or low price, and the conditions under which it is not possible to furnish it with commercial economy at all, are known to the commercial world, and are always considered well in any contemplated works. Many people, however, fail to consider properly that under certain conditions electric light may be very much cheaper than under other conditions.

Taking the case of 100 electric lamps of 16 candle-power each to be operated and maintained in a cotton factory, power to be obtained from the main line shaft, and where an engineer or other person is already employed, to whose duties could be added that of giving to the electric-light machinery such care as it needs, the estimate of the cost of maintaining 100 16 candle-power lamps 600 hours (600 hours is the guaranteed average life of 16 candle-power lamps):

100 lamps at \$1.....	\$100
5 pounds of coal per horse-power per hour for 15 horse-power for 600 hours, 45,000 pounds, say 25 tons, at \$5 per ton.....	125
Addition to engineer's wages, \$10 per month, say three months.....	30
Brushes, oil, sundries.....	5
Interest on investment, \$125, at 10 per cent. per year, say three months, about.....	30
Wear and tear machinery, same time.....	10
	<u>\$300</u>

Thus, under the above conditions, gas at \$2 per 1,000 feet would seem to be twice as expensive as electric light; and at \$1 per 1,000 feet the cost of gas light and electric light would be about the same, with the point in favor of gas that somebody else than the user is responsible to produce and deliver the gas ready for use, and the gas business is in such condition that the results are usually uninterrupted and satisfactory.

Taking the case of, say, a hotel, where complete equipment of steam-power and lighting apparatus would have to be put in, and where also a proper attendant would have to be especially employed, we would have for cost of maintaining 100 electric lamps for 600 hours the following, viz:

100 lamps at \$1 each.....	\$100
Fuel, same as in previous estimate.....	125
Engineer, at \$50 per month, for say three months.....	150
Interest on investment.....	40
Wear and tear.....	20
Incidental.....	15
	<u>\$450</u>

Which exceeds the cost of gas at \$1 per 1,000 to furnish the same light, and is less

than the cost of gas at \$2 per 1,000, with the point in favor of the gas that, besides the responsibility of furnishing it being upon others, it is ready for use all day as well as night.

This is the case where the entire cost of engineer and other fixed expenses are charged to light. If greater number of lamps are used the cost per lamp is less, and if the heating of the house is done by steam, part of the cost otherwise chargeable against light is made up in another way.

For factory lighting the electric lamp is always inverted, so that the light shines downward and the shadow is upward, in which respect the light is better than that of oil or gas.

It is cleaner and safer than oil or gas. It is instantly lit throughout the entire mill, and the number of lamps required is the same as the number of good gas jets or kerosene lamps that would be required.

In fact, the 16 candle-power incandescent lamp is designed and made to take the place of an ordinary good gas jet, and the number required for any factory may be ascertained by counting the number of gas jets or good oil lamps that would be required for the same service.

Probably the most favorable conditions existing for economical electric lighting are those in which power may be had at small or nominal cost, and where the necessary attendance may be had without extra cost. These conditions frequently exist where factories are run by water, or in steam mills where fuel is a matter of little or no cost, as in saw mills, planing mills, or cotton-seed oil mills, where a by-product of the mill is used for fuel that otherwise would be valueless or in the way, and thus worse than valueless. Take, for example, a large planing mill where both the items of fuel and attendance may be left out, shavings and other refuse being used for fuel and the engineer giving the necessary attention without extra cost. Then 100 lamps for 600 hours would cost to maintain:

100 lamps.....	\$100 00
Interest.....	30 00
Wear and tear.....	10 00
Incidental.....	5 00
	<u>\$145 00</u>

An exceedingly small cost for such an amount of light.

Connected with this subject it must not be overlooked that possibly every separate case would present conditions that would alter the relative economy of electricity and gas as lighting agents. In a hotel where the comparison is between 100 jets burning 600 hours for gas, and 100 lamps burning 600 hours for electricity, if the change were made from gas to electricity the guests would keep the electric lamps lit much more than they had been accustomed to keep the gas lit. Very many considerations, such as the above, enter into this light question, for which there is no basis of calculation, and these considerations are in some cases in favor of gas, and in others in favor of electricity. With an electric plant in operation in a hotel the exhaust steam from the engine may be used to heat halls, lobby and dining-room, and other spaces if desired. In fact, in the construction of a new hotel an exceedingly interesting problem of light, heat and power is presented, and in skillful hands most excellent results as to comfort, and exceedingly economical results as to cost of maintenance, are now possible with combined electric lighting and steam heating and power apparatus, the steam heating being done by the exhaust steam from the engine which furnishes power for the lights.

To introduce the electric light and do it for entirely successful results the first cost should be considered and is essentially a capital outlay. Many people who figure on the subject expect to find that the cost of maintenance in, say, one year would not only be cheaper than gas, but cheaper by the total amount of cost of the electric plant, thus bringing back the money in-

vested and a profit besides. Considering that there are no wearing parts about a dynamo other than a plain shaft revolving in two plain bearings, the wear of which should be insignificant in 10 years, and the wear of the brushes, which is likewise insignificant, the cost of an electric plant should stand as an investment and not as an expense item.

The current is in no sense produced by friction or other mechanical means, but is a physical effect of magnetic forces and electrical currents, the one upon the other, the currents being produced by the passage of coils of wire revolving on the shaft above mentioned through the fields of electro magnets, part of the current generated being employed to produce the magnets. The coils of wire properly fastened on to the shaft constitute the armature, and the liability to accident of any sort is almost entirely in the possibility of the wire in the coils of the armature getting too hot, melting and "burning out." Such an accident causes delay and a considerable repair bill. Aside from this there is scarcely a possibility of accident, and the ordinary operation is exceedingly simple. If the operation of an electric-light plant was not a very simple matter, then it could be in no sense a competitor of gas under any conditions, for the gas being always at hand, and being capable of being properly lit and extinguished by anybody except an occasional drunken man or ignorant person. Any other method for obtaining light must of necessity be simple of operation as well as economical to stand as a competitor.

In electric lighting, high pressure currents are dangerous to human life, and bad wiring with currents of any pressure (voltage) makes liability to fire.

With gas bad plumbing makes a liability to explosions and suffocation, but at the present time the liability of the latter is less than the former, because plumbers, by better training and long experience, have learned to be more careful than wire men can be obtained to be. As the matter of wiring for electric lights becomes a fixed trade and more experience is gained and better appliances introduced, the dangers from fire will grow less and less. Leaving out this matter of fire risk, all the annoyances connected with furnishing light are confined to the engine and dynamo room, the matters of suffocation, explosion, disagreeable smell from leakage, heating and deteriorating the atmosphere in rooms attendant upon the use of gas being entirely avoided by electric light.

The following estimates are made as illustrations of what would be the cost of plant, cost of operation and possible income for electric-light plant suitable for towns of four to six thousand inhabitants.

Estimate for an arc-light plant of 35 lamps of 2,000 candle-power each:

One 35-light dynamo.....	\$2,000
17 single arc lamps.....	1,020
18 double ".....	1,350
Ammetre.....	25
Automatic regulator.....	100
Circuit cut-out, automatic.....	30
Switch-board.....	25
Foundation pan or slide.....	30
Hoods, say 30.....	140
Delivery and setting up, say.....	300
5 miles poles and wires.....	1,250
House and lot.....	1,500
Water supply.....	75
Engine and boiler, delivered and set up complete.....	2,000
	<u>\$9,845</u>

Say ten thousand dollars net for the completed plant.

The cost of operating the above, running till 12 o'clock midnight, would be about as follows, per month:

Superintendent.....	\$ 60
Engineer and fireman.....	40
Coal—4½ lbs. per horse-power per hour; 30 horse-power—135 lbs. per hour—1,350 lbs. per 10 hours run; say 20 tons per month at \$4 per ton.....	80
2 carbons per lamp per day, including waste—50 carbons per day or 1,500 per month at 2 cts. and breakage.....	40
Contingent expenses.....	20
	<u>\$240</u>

INCOME:	
10 lights to town at \$10 per month each.....	\$100
25 private lights.....	250
	<u>\$350</u>

Showing a fair profit on the investment, and in which good management might make a little better showing and bad management a much worse one.

In connection with the above it is possible with arc systems to operate some incandescent lamps, but not so economically as by one of the incandescent systems if more than a few should be desired.

Estimate for an incandescent plant of 500 lamps of 16 candle-power each (alternating current suitable for a company to operate in a town or city):

500-light dynamo.....	\$2,000
Converters.....	1,200
500 lamps.....	400
500 sockets.....	400
Switches and cut-outs.....	100
House and lot.....	1,500
50 horse-power engine and boiler, delivered and set up complete.....	2,500
Five miles wire and poles.....	1,500
Electro meters.....	200
Wire in houses.....	1,000
	<u>\$9,800</u>

Say \$10,000 for the complete plant.

COST OF OPERATION PER MONTH.	
Superintendent.....	\$ 60
Engineer and fireman.....	30
Coal for 50 horse-power engine, say 30 tons at \$4.....	120
Lamp renewals per month.....	50
Contingent.....	20
	<u>\$280</u>

INCOME PER MONTH.	
150 lamps, 25 candle-power each, to town for street lighting.....	\$ 100
200 store lamps, 16 candle-power, at \$1 per month each.....	200
75 16 candle-power lamps in private houses.....	75
150 16 candle-power lamps in private houses at 50 cents.....	75
	<u>\$450</u>

Making a total of..... Thus, while making a less brilliant light on the streets than the arc, it is capable of being better distributed and the plant makes a better paying property.

Any increment of either of the above systems would be more profitable than the original plant.

Technically speaking, all light is produced in the same way, viz: by heating some substance to incandescent whiteness. The heat of burning gas heats particles of unburnt carbon in the flame to white heat and these particles radiate light. Without anything in it to become white hot a flame would give very little or no light. Thus, whether we make gas and burn it, allowing particles of carbon to heat white hot and make light, or whether we make an oxy-hydrogen flame and heat lime to whiteness, or whether we make steam and by means of it make an electric current and with this current heat carbon to whiteness, in all cases it is utilizing the heat in fuel of some kind to heat some solid substance to whiteness. By any of the processes cheap fuel means cheap light, and expensive fuel means expensive light.

The ultimate outcome of the controversy regarding the relative merits of gas and electricity will probably be as follows: Gas will be made in the future more extensively than it has been made in the past. It will be made for fuel purposes, and will be used for generating steam or for cooking; in fact, for all the purposes for which fuel is required.

With cheap fuel gas already possible to be made, a dynamo can be operated and light be furnished cheaper and better than by means of the present expensive illuminating gas. Therefore the future promises gas for fuel and electricity for light, and the two will be in no sense competitive. The future gas works will be fuel-gas works, and the future light works will be electric-light works. Probably one company will usually furnish fuel gas and electric light.

THE MANUFACTURERS' RECORD—the accepted exponent of the industrial interests of the South—is preparing a special number to be known as the Bankers' Edition. Would it not be well to have the advantages possessed by Opelika and its tributary territory especially put forward in this publication? What say you, progressive business men of the "Hill City"? The Democrat stands in line to bear its share of the expense.—Opelika (Ala.) Democrat.



## MORRISTOWN, TENN.

A Finely-Situated, Wide-Awake  
Railroad CenterThat Is One of the Coming Manufacturing  
Towns of the South.

[Spec. corresp'dence MANUFACTURERS' RECORD.]

MORRISTOWN, TENN., Nov. 15, 1889.

My first visit to this town has been a revelation to me. I had heard much of Morristown, and had read of it frequently in the MANUFACTURERS' RECORD, consequently I was prepared to see something more than an ordinary town, but I was not prepared to see the wealth of undeveloped resources the town and vicinity possess.

The best way to judge any town is to scrutinize its people; so Sunday I went to church, not alone to hear the sermon, but to take a quiet, unobserved look at the good people here—a privilege always supposed to be accorded strangers. That service laid the foundation for a substantial and high opinion of the plateau city—a coming manufacturing center of the great valley of East Tennessee.

Just now Morristown is in a transition state, and this makes it one of the best places in the South for investment, because whoever comes here now gets in on the ground floor. The railroad facilities of the place are excellent, but one or two additional roads are an absolute certainty. One of these roads will connect with the coal fields lying in a northerly direction, and thus provide fuel at bottom prices, and also bring the best of coke within fifty miles of town. This road will also open up rich mineral deposits, the best of iron, rare marble and extensive timber lands, etc. Another projected road will also open up mineral deposits, vast areas of timber, etc. Altogether Morristown must of necessity become a busy center. It will carry on a large mercantile trade with the surrounding country.

No town can offer better inducements for small industries, especially such as wood-working establishments, a knitting factory or two, foundries, etc., and it is one of the best places in East Tennessee to build a blast furnace. The choicest and best of iron ores are almost at the furnace door. In another letter I shall have more to say about these iron ores. Coke, too, as I have already said, will be within a few miles. Limestone is in the greatest of abundance. Water is here. Brick-making clay is everywhere, and last, but perhaps most important of all, there is an abundance of the very best labor for any kind of an industry.

Morristown is a revelation to a stranger because of its appearance of thrift. There are a few industries in town that give employment to a considerable number of people, but what furnishes the livelihood to so many people, and how can they manage to have such home-like, comfortable homes, with their surrounding flower gardens? I do not attempt to answer the question, but simply say that these outward appearances speak volumes for the thrifty, working qualities of the people of Morristown.

To sum up briefly my impressions of Morristown: It is the place to come to. I say this to the capitalist or to the person seeking a new home. The capitalist will find every possible advantage here to invest his money. Morristown is poverty-stricken in its abundance of resources. Lands, mineral deposits, loans or whatever else suits the capitalist will be gilt-edged investments and pay handsome profits. The home-seeker will find a warm welcome and an abundance of rich rolling lands which, if cultivated with even a moderate amount of skill, will give forth royal returns. Corn, grain, fruits, tobacco; in

fact, almost anything that grows between Florida and Maine, will grow to perfection here. The climate here is perfection itself, just bracing enough to obliterate all languid feelings, and yet not cold enough to chill the marrow in one's bones.

In my next I will describe the rich resources of the town and vicinity, and show why it is an absolute certainty that Morristown is a coming great manufacturing center.

H. L. ALDRICH.

## The Development of Buena Vista.

THIRD ARTICLE.

[For the MANUFACTURERS' RECORD.]

The necessary partition of the estate brought the Buena Vista lands on the market. A few of the best informed citizens in Lexington and vicinity obtained an act of incorporation and options on Buena Vista and on two farms adjoining, so as to add to the mineral lands an ample plain along the river and railroads for manufacturing and building purposes.

Thus were consolidated in convenient shape 13,000 acres of land well known in this region as a principality. On the 20th of last January the books were opened in Lexington, and 6,000 of the 10,000 shares were offered to the public. A few agents were sent out, which proved to be almost unnecessary. The neighborhood people made a rush for the books and in a few days the stock was all taken. In ten days the agents were telegraphed to stop selling, but they had already sold 1,780 shares more than the 6,000 authorized. The stockholders held a meeting and accepted the surplus, so that the capital stock is now divided into 7,780 shares. The subscriptions paid for the real estate and left \$182,000 for working capital.

This prompt action of the neighboring people, who were informed as to the character of the property, ought to satisfy strangers that the Buena Vista enterprise is not an artificial scheme whose temporary success means the injury of many for the benefit of a few, but that it is an estate rich in natural resources only awaiting the application of capital and skill.

And this action of the people means another thing. It is a testimony to the personal character and ability of the men who asked for their co-operation. They were known to be honest, solid and sagacious men, with whom the interests of others could be safely trusted. These people were right on both points, as everybody now sees who observes the growing confidence of the public, as shown by the constant though quiet advance which has gone on in the stock, the lots, and the enterprise generally.

It was not long until capitalists and iron manufacturers began to look over the property. A number of geologists, mine bosses and furnace managers were sent to examine and report. So far as known, every intelligent report has been a strong testimony in favor of the property. Capital took hold as a natural consequence, and with such strength as to insure the development of every interest. The only special desire of the directory now is to unite as great a variety of interests and good influences as possible at Buena Vista. A "boom" is deprecated. There will be an effort to spread information, but no urgent solicitations. Nothing has been or will be proposed except investments of permanent value. No debts or mortgages are thought of. There has never been a cleaner scheme, or one more free from all gambling features. In truth, every offer made to an investor will be for his interest—perhaps largely so—as well as for that of the Buena Vista community.

THE PLAN OF DEVELOPMENT.

Mining, manufacturing and building must form the chief activities. It is

known that towns are sometimes founded on "mining and manufacturing," where, in fact, there is nothing there to mine or manufacture, and no power of any sort to run machinery. But my former articles have shown that at Buena Vista there are immense deposits of iron ore, clay and other things just at hand; also water power, timber and everything else needed except mineral coal, and that this can be bought cheap. These minerals will form the tap-root from which the upward growth will proceed. There will be furnaces for making pig iron from ores within a mile, probably a basic steel plant, still more probably rolling mills, machine shops, stove factories and such like. There will certainly be paper mills, leather industries and wood works. The clay is here for Dinas bricks and ganister, for fire-bricks, terra-cotta pipes, drain tiles and pottery of all kinds. The manganese is here for steel making, spiegeleisen, ferro-manganese and miscellaneous uses. Its quantity is not yet determined. And so we might here remind the reader of the cement, lime and building stones, all of which are not somewhere else, a hundred miles or so away, but right here at Buena Vista; and not here in quality and quantity only sufficient for advertising talk, and for attracting money to be sunk in abortive efforts to utilize the minerals, but the leading minerals are here in such quantity and quality as to enrich those who will judiciously work them.

The many industries that will naturally grow from this tap-root imply much capital, large population, varied business—in other words, a city of factories, stores, shops, dwellings, hotels, churches, schoolhouses, streets, street cars and all the pleasant appliances of modern civilization. Moreover, these rounded eminences, ten to fifteen hundred feet above the sea, bathed in sunlight and pure air, and exhibiting landscapes of cultivated beauty and rugged wildness, will attract families away from the heat and malaria of the low country, and offer sites to the rich for their elegant villas.

WHAT HAS BEEN DONE AND IS NOW DOING  
AT BUENA VISTA.

It is but eight or nine months since the enterprise was set on its feet. The first thing to be done was to consider. It was no easy problem to determine on just the best scheme for operating a great, complicated estate like this. The directors began at the logical beginning, and fixed on a place for the people to live and to labor. Nature plainly pointed to the beautiful plain of 800 acres, lying on the river and running back upon hills which buttress the high mountains. Here are the railroads and the water-power. There in the hills close by are the metals, the stones, the clays and the forests, with the configuration of hills and valleys all pointing to this as the focus to which all may be gathered with the utmost convenience. Here the city was laid off, covering the plain and running out upon the hills. The lots were divided among the stockholders, except some important reservations by the company.

Among the first buildings erected was a Queen Anne hotel on a plateau overlooking the plain and presenting a landscape beautiful and peculiarly interesting. In due time offices, stores, factories and dwellings began to rise, and although the winter is almost upon us, the building of houses is going on vigorously. Better than this, work has been commenced and the contract made for a first-class iron furnace. Ground has also been assigned for three other furnaces, which it is expected will be built hereafter. The ground has been selected also for a steel plant. Propositions have been made for a rolling mill, and the signs are good for fire-brick kilns at an early day. There ought to be a cotton factory to give employment to girls, but

there is no movement in that direction yet. There is a large tannery, a planing mill, a saddle factory and a pulp mill in operation by separate companies. A paper mill is going up. Six of the old canal dams on North river are under control of the Buena Vista Co.

One church is under roof and another will soon be commenced. A public school building has been erected, and a school of over seventy pupils is in operation, with two teachers. There are stores, mechanic shops and brokers' offices in operation. Whiskey is a little scarce, but a great many people come from the North and South, East and West to visit the place, and seem to be pleased to find everybody sober and hard at work.

Although stock and lots have been gradually going up in price, they are still low, considering the future that is before them. But if anybody wants to know all about these things, let him apply to A. T. Barclay, president, Buena Vista, Va.

W. H. RUFFNER.

LEXINGTON, VA., November 12, 1889.

## Letter from Salem.

SALEM, VA., Nov. 12, 1889.

Editor Manufacturers' Record:

The good work still goes on here. The track has been completed to the site of the furnace, and the work on the furnace itself is going forward rapidly. The improvement company are quite active, too. Every dollar of the \$300,000 of stock has been taken, and for ten days the cry has been, "Can't I get more stock?" The recent fair weather has been favorable to the laying off and grading of the new streets, and much work has been done. A plat of the graded part of the new addition between the present town and the railroad is being prepared, and parts of some squares of fine business and residence lots will be placed on the market at private sale at noon on Wednesday, the 11th of December. There is great local demand for these lots, and as soon as the sale takes place, building will progress as rapidly as the weather will permit. The Camden Iron Works and the Salem Folding Chair Co. are now at work getting up buildings as rapidly as possible. Several brick men are "clearing the deck for action." The street railway (a dummy line) between Roanoke City and Salem will be completed by early spring, or earlier if the winter will permit the work to be carried on. Roanoke College, located here, has recently received gifts and bequests to the amount of \$30,000, and thus, you see, the educational is keeping pace with the material progress of our town. We might speak of the enterprises that are expected here, but as that is done so generally now-a-days, we will try to be fresh and new, and will wait until our new industries are "signed, sealed and delivered" here before we count or report them. You may expect to hear from us again soon.

OCCASIONAL.

A PROCESS has been invented at Peabody, Mass., for bleaching the ramie fibre so that it can be worked in the present cotton machinery, and at the Toppan Manufacturing Works in that town may be seen the first importation of ramie grass for manufacturing purposes. The works have orders ahead for a large amount of the new material, one mill alone calling for the equal of 10,000 pieces of dress goods. The discovery bids fair to open a new industry in the South in the cultivation of this heretofore neglected grass. The works are being enlarged by a 40x30 addition two stories in height.—Iron Age.

THE Herald, of Palatka, Fla., is published daily and weekly, and is said to have the second largest circulation in the State.

# NEW DECATUR,

ALABAMA.

The New Industrial City of the Great Tennessee Valley.

## BULLETIN OF PROGRESS.

NOVEMBER 11, 1889.

### Railroads.

1. Grading contractors are at work changing the line of the Memphis & Charleston Railroad, so as to pass through the Union Depot at New Decatur. At present it passes through old Decatur only, a mile and a-half away. Grounds for a new freight depot and freight yards have been located in New Decatur.
2. The end of the track of the Decatur, Chesapeake & New Orleans Railway, a connection of the Chesapeake & Ohio system, is within twenty-five miles of New Decatur, and the engineers are locating the line to this point. Grounds for shops and freight yards have been donated them. The road will afford another northern and eastern outlet for New Decatur.

### The River.

The first steamboat to pass through the famous obstruction to navigation on the Tennessee River, known as the Muscle Shoals, a few miles below New Decatur, was the "A. C. Conn." She made the trip through the government canals on the 5th instant. The river will be thrown open to navigation before January. The Land Company at New Decatur are building tracks to their new river dock landing to connect it with the railroads.

### Freight Rates.

Heretofore New Decatur has been on an unequal footing with other towns in Northern Alabama as regards rates, but this discrimination has been completely remedied by a schedule of rates which goes into effect to-day on all the roads, giving New Decatur the benefit of the lowest rates from all points.

### Industries.

1. The charcoal iron furnace, which was leased to the New "Decatur Iron, Land & Lumber Company" on October 22d, is being prepared for blowing in, and the necessary trestling and tracks are being built. The same company has leased the adjoining works of the Decatur Charcoal & Chemical Works.
2. The Decatur Car Wheel Manufacturing Company are making the alterations and additions necessary to double their working capacity, increasing it to 200 wheels daily.
3. The Decatur Lumber Company are expending \$40,000 in additional machinery and other improvements to increase their capacity.

### New Buildings.

1. The new and handsome school building, of brick and stone, to cost \$20,000 is nearly completed.
2. The Westminster Presbyterian Church, one of four new churches being erected, was opened and formally dedicated on the 10th instant.
3. Building improvements, both business and private, are steadily going on. A handsome 5 store block, part of the north wing of the projected Casa Grande Hotel building, is completed, and the entire building (680 feet frontage) will be completed according to the original plans next year.

### Other Improvements.

The town of New Decatur has placed an issue of \$30,000 of municipal bonds at par for the purpose of street improvements.

### Projected Enterprises.

Negotiations will be closed this week for extending the system of manufacturers' switch tracks in New Decatur and forming them into a belt line.

### Opening of the Tennessee River.

On November 12th the steamer "A. C. Conn" passed through the Muscle Shoals, on her way from Green Bay, Wisconsin, to Chattanooga. The river is therefore practically open to navigation, though it will not be formally opened for a few weeks. It was a notable trip. Her owners, formerly of Green Bay, but now of Chattanooga, started her from Green Bay to Lake Winnebago through the Fox River canal (built by the Government to connect Lake Michigan with Lake Winnebago), thence across the lake and up the upper Fox River to the Portage canal, thence down the Wisconsin, to Prairie du Chien, Wis., on the Mississippi, thence to the Ohio, thence up the Tennessee to the foot of Muscle Shoals, where she had to lay from May, 1888, until November, 1889. The cities of the Tennessee Valley, Knoxville, Chattanooga, New Decatur, Florence and Sheffield, and all intermediate points, are now, after many long years of labor and the expenditure of millions on the part of the Government, in the possession of cheap water transportation to all points of the Ohio and Mississippi and the Gulf of Mexico.

THE DECATUR LAND, IMPROVEMENT AND FURNACE COMPANY have prepared and will shortly publish for free distribution, a beautifully-printed and illustrated pamphlet of about 60 pages, of a convenient size for the pocket, entitled

### "ON THE BANKS OF THE TENNESSEE."

containing 100 questions briefly but fully answered, about Alabama, Northern Alabama, the Valley of the Tennessee and New Decatur. It has been their endeavor to present in a compact, readable and attractive form all the information that may be sought by capitalists, investors, manufacturers in iron, wood or cotton, farmers, stock raisers or mechanics. It will be accompanied by a colored map of Northern Alabama, showing the counties of the Cereal Belt or Tennessee Valley, the iron ore and coal fields tributary to New Decatur, and its railway and river connections with all parts of the United States.

For Maps, Pamphlets and other Information about New Decatur, address

The Decatur Land, Improvement & Furnace Company, New Decatur, Alabama.



# SOME SPECIAL CLAIMS

POSSESSED BY

## LIBERTY, VA.

TO THE FAVORABLE CONSIDERATION of all classes of prospectors, whether for homes, for investment of capital, for health, or for business enterprise. With the ensuing scholastic year will be opened the superb building of the Randolph Macon Academy, of which a cut is herewith presented. This institution is built for the thorough culture of boys—mental, moral and physical—is under the efficient management of Prof. W. W. Smith, LL.D., president of the Randolph Macon College at Ashland, Va., and has been constructed regardless of cost, to secure every condition essential to the successful attainment of its objects according to the most approved modern standards. Such another educational institution does not exist in the broad limits of the Southern States. In addition to this two handsome Female Academies, constructed upon the same intelligent, liberal and progressive principles as the Randolph Macon Academy, will be built during the coming year, and, if possible, receive pupils in September, 1890. Besides these, Liberty already possesses

shipping facilities and all the climatic, social, sanitary and pecuniary conditions requisite to the retention of skilled artisans once engaged in their employment. The manufacturers of tobacco, woolen goods, etc., already established here have found the local advantages so great that they have refused every inducement offered them to move to other points.

Every reasonable concession will be made to parties seeking locations for the establishment and operation of manufacturing plants, and upon application to the undersigned specific information will be furnished as to all details, both regarding the natural merits of the location, the character of raw materials within easy access and the terms offered to bona fide prospectors for sites.

Few better opportunities have been offered investors in Southern properties than the lands immediately adjacent to Liberty—lands possessing the intrinsic merit of natural fertility and productiveness in addition to close proximity to an embryo city,



RANDOLPH MACON ACADEMY.  
LIBERTY, VA.

the usual quota of public and private schools, for which progressive Southern towns are noted.

These institutions insure an intellectual and moral tone in its society to the residents of Liberty that must give it pre-eminent attractions over mere manufacturing centers to the best class of settlers.

As a special recommendation to investors, Liberty possesses all the advantages of close proximity to the ore beds and coal fields of the famous mineral region of Southwest Virginia, is the county seat of Bedford, itself an unexplored mine of mineral wealth, representing granite, limestone, steatite, kaolin, the hematite and magnetic iron ores, asbestos, mica, graphite, mineral paints, fire-clay, &c.

Manufacturers would find here, within easy access and at low cost, all the raw materials used in their business. Cheap labor in great abundance, cheap fuel, excellent

blessed with all the elements essential to steady and permanent growth. Some of these lands are already in the hands of improvement companies and have been laid out in beautiful, wide, shady avenues and divided in lots to meet the requirements of those desiring to build or to invest on a modest scale.

Liberty invites the closest scrutiny of its claims and does not require to indulge in extravagance or deception. Its growth is inevitable. With a superb climate, grand and imposing scenery, a surrounding country of great productiveness, invigorating mountain atmosphere, an unlimited supply of the purest free-stone water, unsurpassed healthfulness, good society and the finest schools for both sexes, enterprising and successful manufacturers, close proximity to the markets of the world, cheap labor, cheap lands, excellent shipping facilities, it lacks nothing but more people to make it a model city.

For Information address { J. LAWRENCE CAMPBELL, Secty. Liberty Improvement Co.  
R. KENNA CAMPBELL, Manager Longwood Park, Va.

# 200,000,000 TONS OF BROWN IRON ORE

IN SIGHT AT

## BLUFFTON,

HIGH, HEALTHY AND HONEST.

GOOD PEOPLE AND GOOD WATER.

Cherokee County, Ala.

It is impossible to describe by words the enormous quantity of iron ore that is in sight on the land of this company. Said a prominent railroad man of the South: "I could not believe your statement as to the quantity, (200,000,000 tons in sight), but now that I have seen your ore deposits, I wonder how you put so low an estimate on them."

Prof. Robinson, of Bowdoin College, Brunswick, Maine, says: "I found at Bluffton iron ore in abundance, partly in solid cliff masses containing hundreds of thousands of tons, and partly in the form of gravel and small boulders lying in great banks similar in appearance to the gravel banks of New England. Whether there was as much of the gravel as of the bluff ore I could hardly judge, but it was very clear that the quantities of both were simply enormous."

G. S. Patterson, mining engineer, of Anniston, Ala., reports: "The amount of ore in sight was certainly beyond my expectation, though I was prepared to find a large deposit. The Bluff, as it is called, is a solid mass of ore on the side of a mountain, easily approachable, and can be mined cheaper than at any point in Alabama or Georgia, with which I am familiar."

Mr. Wm. H. Edmonds, of the Manufacturers' Record, says: "As to

the quantity of ore here, I don't suppose that all the furnaces in Alabama could use it up in a lifetime."—See Manufacturers' Record May 18, 1889, article entitled "BILL ARP AND BLUFFTON."

Ore can be delivered at furnaces built here at a cost not exceeding 50 cents per ton.

With high grade ores, analyzing over 50 per cent. metallic iron, delivered at the furnace at the above-named price, is there any possibility of such a place as Bluffton not being able to produce iron at figures which will yield a profit despite the duldest of dull times?

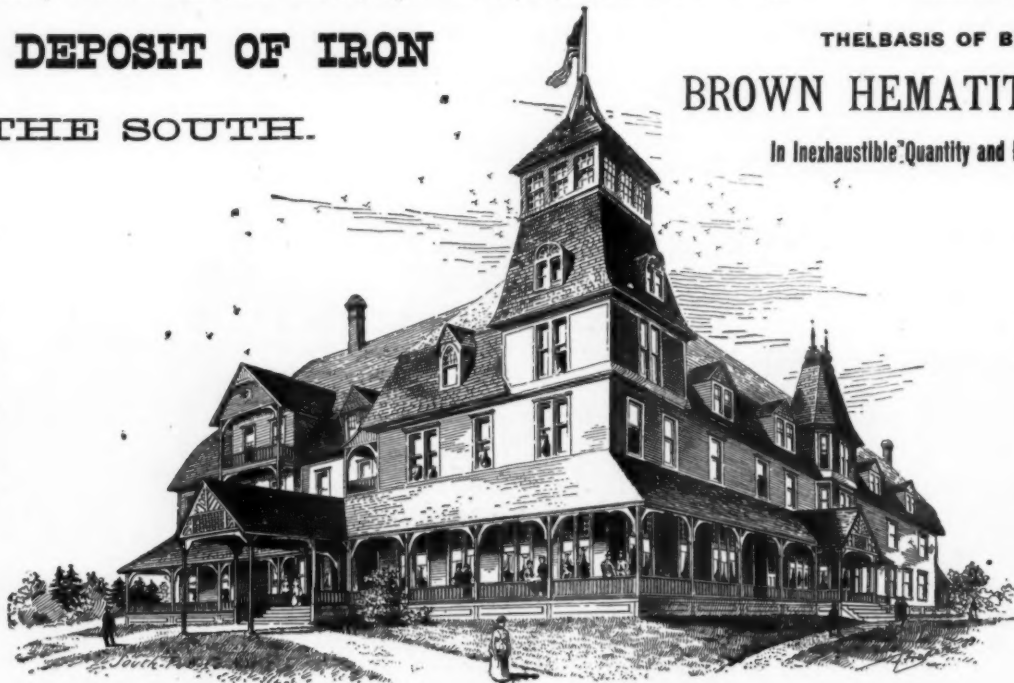
Prof. J. H. Pratt, of Birmingham, Ala., reports on samples selected from our property by Mr. Edmonds and Mr. G. S. Patterson as follows:

The sample of brown iron ore, marked "Bluff Ore," contains—	The sample marked "Gravel Ore" contains—
Metallic iron, - - 52.37 per cent.	Metallic iron, - - 53.23 per cent.
Phosphorus, - - - 0.782 "	Phosphorus, - - - 0.931 "
Silica, - - - 14.60 "	Silica, - - - 6.25 "
Water combined, - 8.10 "	Water combined, - 10.20 "
Moisture at 100° C - 2.50 "	Moisture at 100° C - 1.68 "

### LARGEST DEPOSIT OF IRON

IN THE SOUTH.

Ore can be delivered at furnaces built here at a cost not exceeding 50 cents per ton.



THE SIGNAL—NOW OPEN AT BLUFFTON.

THE BASIS OF BLUFFTON:

### BROWN HEMATITE IRON ORE

In inexhaustible Quantity and Excellent Quality.

Located on the Selma Division of the East Tennessee, Virginia & Georgia Railway, midway between Rome and Anniston, and only two miles and three-fourths from the East & West Railroad, of Alabama.

## FREE MANUFACTURING SITES.

### Rich Manganese Deposit.

There are several very large and rich outcroppings of Manganese Ore on the company's property, and the deposits have been examined by experts and pronounced exceedingly valuable. Specimens have been sent to various steel works in Pennsylvania, and the result is a large inquiry about the ore. From present development can be seen several hundred tons of this ore. There is always a ready market for manganese, and it is quoted at \$18 to 20 per ton in Pittsburgh and Chicago. More extensive work will be done on these deposits within a very short time, as the banks are easily accessible. Shipments will soon be made.

### OTHER RESOURCES.

Fire Clay and Brick Clay—Yellow Ochre.

On this property are large deposits of fire clay, which has stood the highest test. Shipments have been made to Chattanooga, Tenn., and it is pronounced a superior quality. A fire brick works could be established here that would prove extremely profitable.

In brick clay there is an inexhaustible quantity, with an abundance of water running through the clay land. Brick manufacturing here would pay handsomely, and the company would lease the clay beds for a term of years at a very low royalty.

The four charcoal pig-iron furnaces surrounding this property are nearly as valuable to this place as if they were located on the land of the Bluffton Company. The pig iron manufactured by them could be bought and utilized here for every kind of manufactured iron. They are so near that freight on the raw material would be comparatively nothing. Surrounding us, as these furnaces do, it makes Bluffton a centre.

SEND FOR PROSPECTUS. ADDRESS

# Bluffton Land, Ore & Furnace Company, Bluffton, Ala.



# FORT PAYNE, Alabama.

## ★ COME TO ★ The NEW ENGLAND CITY of the South.

Climate Unsurpassed. Abundance of Pure Water. Drainage Excellent.

No Better Point in the Union  
For Safe and Profitable Investment.

Situated on the MAIN LINE of the QUEEN & CRESCENT ROUTE, fifty-one miles Southwest of Chattanooga, and ninety-one miles North of Birmingham.

Elevation is from 895 to 1,600 ft above the sea, and above fever districts.

DeKalb County is entirely free from debt; taxes light. Most liberal encouragement given to industries of every kind.

Iron Furnace and Rolling Mill will be constructed immediately, and other industries of various kinds are under contract.

Correspondence solicited from those who contemplate coming into the South to establish any kind of manufactories.

The different industries will employ at least two thousand skilled workmen, which will secure a population of over ten

thousand, independent of the many industries contemplated.

Iron of the best quality can be manufactured at as low cost per ton as in any other locality in the South.

Coal and iron are being developed rapidly of a superior quality.

Fine timber abundant and wood-working machinery of every kind can be profitably employed at this point.

The Company is prepared to give every reasonable encouragement to manufacturers who will locate at this point.

✉ Correspondence solicited.

## CAPITAL \$5,000,000.

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First Vice-President, - -	HON. D. H. GOODELL
Second Vice-President, -	HON. HENRY B. PEIRCE
Secretary, - - - -	C. L. T. STEDMAN
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 City, resides Fort Payne, Ala.

## FORT PAYNE COAL & IRON COMPANY, Fort Payne, Ala.

# DENISON, TEXAS.

The "Yankee" City of the Southwest,

— AND —

✻ GATEWAY ✻

— TO THE —

## GREAT STATE OF TEXAS.

The City of Denison presents the Finest Opportunity of any City in the Southwest for the Investment of Capital in Large or Small Sums.

**D**ENISON is situated in Northeastern Texas near inexhaustible beds of coal and iron, surrounded by the finest fruit lands in the world, and adjoining the INDIAN TERRITORY, which, in the nature of things, must in a few years be opened to settlement.

The growth of Denison has been a natural one, the city having reached its present size—16,800 population—in sixteen years.

The city is regularly and beautifully laid out. Railroads run from it in four different directions. The Missouri, Kansas & Texas alone does an enormous business, having 54 miles of switch track in Denison, employing 500 skilled workmen and disbursing \$150,000 a month in wages.

The first public school in the State was established here, and the city's elegant two and three story brick school buildings, surrounded by attractive grounds, are well arranged for the use of the white and colored children. Its schools are in session ten months in each year.

We have sixteen church societies, seven of which are colored.

The city is well supplied with pure water from its numerous private wells—dug in the ground—and its first-class system of water works, giving the citizens ample protection against serious loss by fire, and enabling the insurance companies to rate the city first class as to fire hazard. Rate of taxation low.

The city has four miles of street railway, with six miles now building to be operated by steam motor; has two electric light companies and a telephone plant. It has an influential New England colony, and counts among its citizens people from every State in the Union.

A large hotel, to cost \$125,000, is to be erected here this year, and a large steel plant with \$2,000,000 of capital is contemplated.

30,000 bales of cotton were shipped from Denison in 1888. 200,000 baskets of strawberries and several carloads of peaches and other fruits have been shipped to market this season.

The Denison Canning Co., capitalized at \$100,000, has just been organized, and ground has been broken for a large fruit and vegetable canning factory.

A cotton mill company is being formed with a capital of \$500,000. Denison citizens have subscribed \$150,000 to this enterprise; Eastern capitalists will add \$350,000.

The climate of Denison is magnificent, situated nearly 800 feet above sea level. In summer it is warm, but far cooler than many cities farther North, and from 6 P. M. until after sunrise it is always cool. The city is very healthy.

The capacity of the ice factory is being increased from a daily output of 15 tons to 30.

The Denison Land & Investment Co. is prepared to give every reasonable encouragement to manufacturers, and solicit correspondence from such manufacturers as contemplate coming into the Southwest to locate.

Address all communications to

## THE DENISON LAND & INVESTMENT COMPANY,

DENISON, TEXAS.

Paid-Up Capital, - - - - - \$1,200,000.

### OFFICERS:

W. P. RICE, President.

MILTON H. FRENCH, Vice-President and General Manager.

ARTHUR L. BERRY, Secretary and Treasurer.

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MILTON H. FRENCH, Thomaston, Maine.  
A. H. COFFIN, Denison, Texas.  
JOS. B. LINCOLN, Boston, Mass.



# Morristown, Tenn.

## The Plateau City of the Great Valley of East Tennessee

is beautifully located on a plateau of Bay's Mountain, about equi-distant from the Cumberland Mountains which bound East Tennessee on the northwest, and the Alleghany Mountains which bound it on the southeast, and is 300 feet above Holston River, which washes the north base of the plateau three miles from the city. Its mean elevation above sea level is about 1,350 feet, while the hills and mountains immediately surrounding it rise to an altitude of 1,935 feet, affording views of surprising extent and grandeur, and at the same time so modifying the temperature that the thermometer rarely registers higher than 90° in summer or lower than 10° in winter. Its drainage is admirable, and malaria is unknown. It has nearly trebled its population since 1880, having now about 4,000 inhabitants. It is the commercial and business center of the richest and most extensive agricultural district in the State, where all the cereals and all the grasses

and tobacco are grown to perfection, and where fruits and berries abound. It has hundreds of thousands of acres of uncultivated forests accessible to it, abounding in Poplar, Pine, Hemlock, six varieties of Oak, Chestnut, Hickory, Cedar, Maple, Birch, Beech, Sycamore, Gum, Locust, Laurel, Buckeye, Mulberry, Ash, Cherry and Walnut. The Celebrated East Tennessee Marble underlies a part of the city, and it is surrounded with rich deposits of Iron Ore, Manganese Ore, Zinc Ore and Lead Ore. It has been said by one who has made a study of the subject, that within a radius of 50 miles around Morristown every variety of iron ore in the United States can be duplicated, and a coke can be made equal to Connellsville coke. We claim without hesitation that Morristown has in its immediate vicinity richer mineral ores, and a greater variety of them, than any city on the Continent.

### MORRISTOWN

has Railroad Facilities equal to any city between Lynchburg and Chattanooga, and they will be speedily increased by the completion of the Carolina, Cumberland Gap & Chicago Railway, making the shortest possible railway route between the great cities on the Ohio River, Cincinnati and Louisville, and the seaboard cities, Charleston, Port Royal and Savannah. Besides, the Baltimore & Ohio Railway will probably extend a branch to it from Lexington, Va., and the Tennessee Midland will in all probability be built to Morristown, and a line be built giving direct connection with Atlanta.



MAP SHOWING RELATION OF MORRISTOWN TO THE COUNTRY AT LARGE.

### MORRISTOWN

has a citizenship composed almost exclusively of native born Americans. It boasts a splendid system of Graded Schools, Five Commodious Brick Churches, the finest Courthouse in Upper East Tennessee, an Opera House that will seat 600 people, two Solid Well Managed Banks, a flourishing Building and Loan Association, two of the Largest Commercial Flouring Mills in the South, Stove Works, an Agricultural Implement Factory, two Woodworking Factories, a Tobacco Factory, a Carriage and Wagon Factory, and many industries of lesser note.

It is lighted with electricity, and has water works under contract, and is now inaugurating a system of street railways. Its climatic advantages, its unsurpassed record for healthfulness, its abundance of pure water, its central and beautiful location, its transportation facilities, its fruitful agricultural surroundings, its contiguity to rich and exhaustless fields of iron, manganese, zinc and lead ores, marble, coal and timber, mark it as a place destined to be the commercial, manufacturing and railway emporium of Upper East Tennessee, Western North Carolina and Southeastern Kentucky.

To expedite this destiny the city authorities have wisely exempted from taxation for ten years all manufacturing establishments that will give employment to fifteen or more persons, and the county authorities have done the like, so that manufacturing establishments will be exempt from all taxation for ten years, except the merely nominal tax for State purposes. There has been no "boom" or inflation of prices at Morristown, and, as it possesses within itself and contiguous to it almost every element of wealth, it now presents the most inviting field for investment of any city in the South.

Persons who may desire fuller information can obtain it by calling on or addressing

## MONTVUE LAND COMPANY

POSTOFFICE BUILDING, — MORRISTOWN, TENNESSEE.

## RANDOM NOTES ABOUT THE "MODEL CITY of the South."

**T**HIS is the title bestowed upon Anniston, Alabama, at its beginning by persons who were impressed by the provisions its founders had made for the comfort and health of its future population, and the farseeing wisdom and judgment that entered into all the plans for its development. And it has amply maintained its right to the title. It has always been as its originators designed it should be—a model in every respect. This idea was incorporated in its foundation, and has been a part of its growth up to the present time.

Anniston is a town of about 12,000 inhabitants, and its population is rapidly increasing. Its numerous industries employ about 6,000 men, and pay out over \$60,000 a week in wages. It is one of the most beautifully located towns in America. Travelers who have visited it say that no more attractive site for a city could be found anywhere in the world. It is clean, sober, moral and healthful. It has churches, schools, water works, electric lights, gas, well-paved streets, handsome stores, fine residences and all the conveniences and attractions of a modern, well-appointed city. It is the industrial and commercial center of one of the richest iron districts in the world. It is surrounded by a splendid agricultural country. It has unsurpassed advantages for the manufacture of everything into which wood and iron enter. It possesses every attraction needed to make it a delightful place for a home or a health resort.

The one remark most frequently made in regard to Anniston is that it is a "solid town," and this is probably its most noteworthy feature. It has had no sudden, fictitious growth, no abnormal development, no unnatural stimulation to be followed by reaction and succeeding depression. Its development has been on a substantial and permanent basis. Manufacturers have been drawn here by the superior quality of Anniston iron, the abundance and cheapness of timber, and other natural advantages, as well as by its attractions as a place for a home. Its facilities and advantages as viewed from the standpoint of business are supplemented by its delightful and invigorating climate, its unsurpassed healthfulness and the beauty of its surroundings.

The following are analyses of the ores used by the Woodstock Iron Co.:

"REED'S BANK" ORE.		"SILVER CREEK" ORE.	
Metallic iron . . . . .	60.02	Metallic iron . . . . .	50.83
Phosphorus . . . . .	.08	Phosphorus . . . . .	.008
"WASHER BANK" ORE.			
Metallic iron . . . . .	55.53		
Phosphorus . . . . .	.06		

There is one peculiarity of Anniston that is very strong in its favor—the fact that the larger part of the manufacturing capital invested here is local capital. The founders of the city didn't simply buy up some thousands of acres of land and then say to the world, "come and take advantage of the unexampled opportunities we offer, buy our stock, buy lots from us, establish manufactures." They first showed their faith in Anniston's advantages by investing here their own money. They built the furnaces, the cotton mill, the car shops, the car-wheel works, the water works, the Anniston & Atlantic Railroad, the Anniston & Cincinnati Railroad, etc. They built the splendid pipe-works plant that has just gone into operation, and the two new furnaces about to go into blast. As fast as they made money they have invested it right here.

Anniston is blessed with a delightful and healthful climate. It is never cold—the most delicate persons can spend the greater part of the time out of doors the year round. In summer the climate is not such as to debilitate and weaken, as is the case in the North and in less elevated localities in the South. The thermometer registers less heat, and even the same temperature is far less apprehensive here than where the percentage of humidity is greater. Its location in the mountains ensures an unfailing breeze, and no matter how warm it may be in the sun through the day, the nights are always cool. The climate seems particularly suited to those who are troubled with throat or lung diseases. A physician living near here, who had suffered for years with a severe bronchial trouble, states that he had lived in Southern California, Colorado, Florida, at Aiken, S. C., and in the South of France, and that the climate of none of these places did him as much good as that of Anniston has done. There are persons here now in vigorous health who believe they would not be living but for their removal to Anniston.

Mr. Albert Howell, of Atlanta, said recently in an interview in the Atlanta Constitution: "Anniston is the coming city. I was there last week. You cannot conceive the bustle and business of that wonderful city. Homes are being built as rapidly as possible, but the city has outgrown itself, and two thousand residences, if they were started at once, would be rented before completion. The other cities may blow and bluster, but Anniston is building, and in ten years will be the best city in Alabama. You mark this prediction."

INFORMATION ABOUT ANNISTON, MAPS, PROSPECTUSES, &c., &c., MAY BE HAD FROM THE

# ANNISTON CITY LAND COMPANY, Anniston, Ala.



# SOME FACTS ABOUT FLORENCE, ALA.

Florence is in North Alabama, near the Tennessee line, on the Tennessee river, which is navigable here for large steamers. It is on the Memphis & Charleston Railroad, and the Nashville & Florence branch of the Louisville & Nashville Road.

There are many other places in the South possessing the advantages of a good climate, healthfulness, natural resources and manufacturing capabilities more happily combined and in a higher degree than can be found in any other part of the country. It is believed, however, that at no point in the South, and hence nowhere in America can there be found an aggregate of so many unsurpassed advantages and attractions as exist at Florence.

Florence can make iron as cheaply as any place in Alabama. It has facilities for the manufacture also of cotton goods equal to those of any other place. Anything that uses wood as a raw material can be made here at as low a cost as anywhere in the South.

Thousands of acres of iron ore of a high grade within a few miles of Florence are owned by Florence companies. Limestone is quarried within the town limits. There is enough of it to last for ages.

Cotton mills would get a large part of their supply from the country around Florence. Cypress creek furnishes water power and mill sites enough to make Florence the Lowell of the South.

North of Florence, and up the Tennessee river, there are large areas of timber, embracing a wide variety of hardwoods—forests that the ax has never touched.

Besides its industrial possibilities, Florence is a point of great commercial importance, and could be made the center of an enormous mercantile business. It has the advantage of both rail and river transportation and of competing railroads. Certain railroad movements are in progress now that will give it direct communication in every direction and by different lines.

Florence is surrounded by a wide extent of fertile and productive country, as well adapted for farming, stock raising, fruit growing, truck farming, dairying, &c., as any in the world. Further, it has a climate that is delightful the year round. Its health record cannot be surpassed. It has no malaria. In fact, people who live here enjoy a remarkable exemption from ailments of every sort. It has an abundance of the purest water.

For beauty of location Florence is without a peer. The Tennessee river at this point is as romantic and beautiful as the Hudson. The rolling character of the country, the slopes and hills and alternating valleys furnish a picture to charm an artist's eye. The lovely Cypress creek, a deep and rapid stream emptying into the river just below the town, presents at every turn in its tortuous course a scene of entrancing beauty. The views from some of the higher hills are as fair as the eyes of man ever rested on.

Florence is making more rapid progress, proportionately, than any other town in America. This is a strong statement but it is true. And its growth is on a solid and permanent basis.

Florence is not undergoing any wild real estate boom. Its managers are not seeking to advance real estate prices. It is not their plan to get a quick return for the money they have invested, by the rapid sale of lots at unnatural prices. It is their aim to first build up a town, to locate factories and secure a permanent population, when land will have an actual value and sell at prices from which there will not be a subsequent disastrous reaction. At present real estate is much lower in price than in any other town in the South that has made half the progress Florence has made.

Since the first of September, 1888, over 25 industries have been located at Florence, with an aggregate cash capital exceeding \$2,000,000. This remarkable growth is the result of efforts to induce people to simply investigate the attractions of Florence. Investigation and comparison with other places, on the part of any who are looking for a place in the South to locate, will in nearly every case result in the selection of Florence.

The following are some of the industries in Florence. Some of these are in operation; others are nearly ready for work and others have but recently commenced work on their buildings: A furnace about ready to go into blast, and another partly constructed; a stove factory; a hardware company, with a capital of \$300,000 to manufacture fine building hardware, &c.; a wagon factory, with capital of \$150,000; an agricultural implement works; a handle factory; a woodenware factory; a sash, door and blind factory; a cedar bucket factory; a pump factory; planing mills; a factory to make wooden butter plates such as grocers use; a flour mill; a cotton mill; a jeans factory; a gingham factory; a woolen mill; a cotton gin; a marble company; a roofing and paint company; a shoe factory; a suspender factory; a compress, packet and ferry company; three building and loan companies; a canning factory; several brick factories; a dummy railroad company, and several other enterprises.

The aggregate capital of the industrial, mercantile and development enterprises in Florence exceeds \$15,000,000.

A year ago the population of Florence was 2,000. It is now more than 8,000. There are more than 1,100 carpenters at work in Florence and they can't build houses fast enough to keep up with the increase in population. Before the first of January next there will be 15,000 people living here.

Limited space allows here only the briefest summary of a very few of the more important facts about Florence. For more detailed information write to any of the following companies. Or better still, come down and see for yourself. Investigation is all that Florence asks or needs.

Railroad and Improvement Co.

Lauderdale Manufacturing Co.

Cotton and Iron Co.

Florence Investment Co.

# MIDDLESBOROUGH

AND

# CUMBERLAND GAP.

The Future Iron *and* Steel Center of America.

THE PASSAGEWAY FOR RAILROADS BETWEEN THE WEST AND THE EAST.

A SOURCE OF COKE SUPPLY FOR THE SOUTH AND WEST.

The Furnaces and Factories already assured will make it one of the largest manufacturing towns in the South.

## NEW INDUSTRIES

Being rapidly added to those already in operation and contracted for.

# COAL, IRON, TIMBER

AND OTHER RAW MATERIALS.

Abundant Water for all Manufacturing Purposes.

WATER FROM PURE MOUNTAIN STREAMS FOR DOMESTIC USES.

DELIGHTFUL AND HEALTHFUL CLIMATE.

Surrounded by Valleys of Rich and Productive Farm Lands.

SEND FOR CIRCULARS, PROSPECTUS, MAPS, ETC., TO

**ALEX. A. ARTHUR,**

General Manager, Knoxville, Tenn.

**JOHN M. BROOKS,**

Resident Manager, Middlesborough, Ky.



# Southern \* Railroads.

## Railroad Prosperity.

The MANUFACTURERS' RECORD has repeatedly called attention during the summer to the certainty of a very heavy railroad business this fall and to the need of more rolling stock to handle the traffic. Every week now serves to show that not only were these predictions correct, but that the railroads are enjoying the greatest prosperity which they have ever known. From one end of the country to the other the volume of traffic is greater than can be promptly handled, and fortunately all indications point to a long period of this unprecedented activity. The Wall Street Daily News, referring to this gratifying condition of affairs, says:

"We have confidently predicted that it would be possible to publish this fall a statement of railroad earnings that would break all records. We had expected to do so before this, but last week's summary, as compiled by the Financial Chronicle, is in every respect the most extraordinary statement of railroad earnings which was ever presented. It is extraordinary from whatever point it is looked at. The increase has been large and steady ever since June. The report for the month of October covers a greater mileage on a larger number of roads than ever before reported in a single month. These 152 roads have a mileage of 83,223 miles, or more than half the mileage in the country. Their gross earnings reach the enormous sum of more than \$1,500,000 per day, or about 50 per cent. more than the entire revenue of the government. The increase as compared with last October is over \$51,000,000, or about 12½ per cent. Another remarkable feature is the fact that the increase in mileage of the roads handling this extraordinary business is the smallest reported for any month, being only a trifle over 4 per cent. It is apparent, therefore, that the record for the month is the best ever known, and that, too, in every point. The Chronicle is certainly entitled to great credit for the energy with which it has pushed these important returns. The statement is favorable also in that the improvement has been general and the losses few and unimportant, and nearly all due to exceptional causes, which will suggest themselves to any investor at once. It may be said in a general way that the remarkably open winter is responsible for almost all the losses that are shown, and yet the coal roads that have fallen behind this year are already assured of a very handsome improvement during the winter, as the iron trade is entering upon a period of exceptional activity. The Southern system of roads has the largest gain. They have earned more money than ever before, and this increase has been steady with the ex-

ception of a single break last year. But the gain this year has been more than enough to make good the average increase yearly since 1883. The Northern Pacific carries the flag with an increase of \$419,000, and that too on the top of an increase of over \$500,000 for the same month last year. The extraordinary development of the Northwest is shown by an increase almost as large on the Manitoba system, showing that the Northern Pacific improvement was natural and not due to any loss by its competitors. In the South the Louisville & Nashville leads with an increase of \$323,252, but the St. Louis, Arkansas & Texas does even better proportionally, and the Atchison will probably report the heaviest quarter's earnings that it ever had, and be able to show at a most opportune time a rapid jump from poverty to affluence."

## Annual Report of the B. & O.

The sixty-third annual report to the stockholders of the Baltimore & Ohio Railroad is very promising for the future of the road. Comparison of the financial statement of 1889 with that of 1888 makes a favorable showing. For the year ending September 30, 1888, the earnings from freight carried were \$14,309,773.22, against \$14,669,446.26 for 1889, an increase of \$359,673.44; from the passenger traffic, \$4,262,339.46 in 1888, against \$4,913,838.75 for 1889, an increase of \$651,499.29; from mail transported, \$374,945.65 for 1888, against \$406,024.13 in 1889, an increase of \$30,078.48; for express service, \$469,121.29 in 1888, against \$523,653.29 in 1889, an increase of \$54,532; from miscellaneous, \$937,312.02 for 1888, against \$790,039.16 for 1889, a decrease of \$147,272.86. Thus, while the total increase for 1888 was \$20,353,491.64, in 1889 it was \$21,303,001.99, an increase of \$949,510.35.

The operating expenses for 1888 were \$14,200,561.29, against \$14,810,844.31 for 1889, an increase of \$610,283.02. Deducting all payments, the balance in 1888 was \$124,431.82, while this year the balance is \$519,318.12, an increase of \$394,886.30. The tonnage moved for 1889 was the largest in the history of the company, being 12,161,380, against 11,195,940 for 1888. Among the extraordinary expenses this year are \$210,042.27 expended to repair damages by floods. The work of improving the whole system, in keeping up equipment, enlarging track facilities, increasing terminal facilities, etc., etc., so as to do the greatest amount of work at the least expenditure of time and effort, still goes on. In every way regard has been had for the best interests of the stockholders. A car trust loan of \$1,000,000 at five per cent. has been made, but only \$667,835.94 was expended, and this was for 40 engines and 338 cars of all sorts. The sinking funds have been properly kept up and all obligations met. On account of large expenditures for permanent improvements, for construction, for loans made to connecting lines, and investments in associate interests, the floating debt has been increased \$407,060.82. The report says the condition of the entire system has been steadily improved during the entire year, but considerable outlays will be necessary during the coming year in increasing and improving terminal facilities,

THE officers of the East Tennessee, Virginia & Georgia Railway Co., Messrs. Henry Fink, president; C. H. Hudson, general manager, and Edwin Fitzgerald, traffic manager, on their recent trip of inspection over the company's lines, spent two days last week at Brunswick, Ga., which will be made the outlet for the agricultural and manufactured products of the country traversed by its system of roads. The company has recently built extensive and substantial wharves with an unbroken frontage of 2,000 feet, and has purchased land for additional wharf capacity of 1,000 feet frontage. At one time last week five steamers, some of them drawing over 22 feet of water, were lying at these docks loading and preparing to load cotton for Liverpool, Bremen and other foreign ports; one of them will carry over 9,000 bales. The increase in the foreign trade of Brunswick has been very rapid of late, and all indications point to a very prosperous future for this port.

THE annual meeting of the stockholders of the Baltimore & Ohio Railroad Company was held November 16 at the company's office in the Central Building.

Mr. Reverdy Johnson was called to the chair, and Mr. Andrew Anderson, the secretary of the company, acted as secretary.

The sixty-third annual report of the company for the fiscal year ended September 30, 1889, was submitted and unanimously accepted and approved.

The meeting then proceeded to the election of twelve directors on the part of the stockholders to serve for the ensuing year. Messrs. George J. Appold, Joseph W. Jenkins, Jr., and Meyer Stein were the judges of election.

On the close of the polls at 1 P. M. the following gentlemen were elected: James Sloan, Jr., William F. Burns, Decatur H. Miller, William H. Blackford, Aubrey Pearre, George deB. Keim, Wesley A. Tucker, Maurice Gregg, J. Wilcox Brown, William F. Frick, Geo. A. Von Lingen, George C. Jenkins.

The only changes in the board are those caused by the withdrawal of Mr. W. G. Atkinson in favor of his partner, Mr. George A. Von Lingen, who, for many years, until his absence at the last election, represented the interests of his firm and family in the board, and the election of Mr. George C. Jenkins, who also represents large individual and family interests, in the place of Mr. C. F. Mayer, the president of the company.

The meeting was attended by an unusually large number of stockholders and their representatives, and the vote cast in endorsement of the present administration of the company amounted to 94,025 shares, which is the largest ever cast in the history of the company.

MINE OWNERS in the South will read with interest the remarkable achievement of sinking a deep shaft through treacherous ground by first freezing the earth, which has been accomplished at the Chapin iron mine, in Michigan. The contract was to freeze, excavate and curb up a rectangular shaft 15½x16½ feet and about 100 feet deep. This was done by first putting down the freezing pipes three feet apart in a circle 29 feet in diameter, to the depth proposed to be reached by the shaft. The pipes were connected at top and filled with a solution of brine containing about 25 per cent. of calcium chloride. The brine was frozen to a point below zero by means of an ice machine, and in 40 days a frozen wall of ice, earth and stone was formed 10 feet thick.

## Railroad Construction

Albany, Ga.—Railroad.—The bill introduced in the legislature to incorporate the Albany, Florida & Northern Railroad, previously reported, has become a law.

Antioch, N. C.—Tram-road.—J. F. & D. M. McKay, mentioned elsewhere in this issue as to move their saw mill to near Antioch, will build a tram-road from their mill to the Cape Fear & Yadkin Valley Railroad.

Athens, Tenn.—Railroad.—It is rumored that a number of gentlemen interested in the development of Cumberland county coal will organize a company for the construction of a railroad from Sparta to Athens via Crossville.

Asheville, N. C.—Railroad.—The French Broad Valley Railroad Co. contemplates building a railroad from Asheville to some point in Transylvania county, provided Asheville subscribes \$50,000 to it.

Atlanta, Ga.—Railroads.—Bills have been introduced in the legislature to incorporate the Fairmount Valley Railroad Co., the Bainbridge & Northeastern Railroad Co., the Union Point & Elberton Short Line Railroad Co., the Chattanooga & Gulf Railroad Co., the Augusta Railroad, Investment & Banking Co., and the Americus & Jacksonville Railroad Co.

Atlanta, Ga.—W. T. Spalding and Alex. W. Smith have applied for a charter to incorporate the Southern Railway Co.

Atlanta, Ga.—Railroad.—The bill to incorporate the Albany, Florida & Northern, previously reported as introduced into the legislature, has passed.

Atlanta, Ga.—Railroad.—The name of the Winterville & Pleasant Hill Railroad has been changed to the Smithsonia & Danlap Railroad.

Atlanta, Ga.—Railroads.—The following bills, previously mentioned as having been introduced, have become laws: To incorporate the Bainbridge, Lake Douglas & Suburban Railroad Co.; the Abbeville & Waycross Railroad Co.; the Dublin, Blackhead & Southern Railroad Co.; the Turtle River Railroad Co.; the Athens Railway Co.; the Savannah & Hope Isle Railway Co., of Savannah; the Augusta Railroad Co.; the Atlanta & Alabama Railroad Co., capital stock \$1,000,000, and the Woodville, Renfield & Oconee Valley Railroad Co.

Auburn, Ky.—Railroad.—The citizens of Union district are agitating raising a subscription of \$25,000 to the capital stock of the Ohio & West Virginia Southern Railroad, as it is thought that at least 20 miles of this line will be built in that district.

Baltimore, Md.—Electric Railroad.—Nelson Perrin, president and general manager of the Union Passenger Railroad Co., lately reported as having returned to horses on its Hampden branch after using electricity for four years, has requested the Daft Electric Light Co. (office, New York city) to make him a proposal for the entire re-equipment of that part of the road.

Baltimore, Md.—Street Railroad.—A resolution has been introduced into the city council to allow the North Baltimore Passenger Railway Co. to lay tracks on Cathedral and Richmond streets.

Belair, Md.—Railroad.—Surveyors are at work re-locating the Maryland Central Railroad (office, Baltimore) between Belair and Delta, preparatory to converting the road into broad-gauge, as previously mentioned.

Berkeley, Va.—Street Railroad.—The building of a street railway is contemplated and charters has been secured.

Birmingham, Ala.—Railroad.—The Birmingham & Shade's Mountain Railroad Co. has been organized.

Birmingham, Ala.—Railroad.—The Dudley Mines branch of the Birmingham Mineral Railroad is being surveyed.

Birmingham, Ala.—Railroad.—Thomas Seddon, H. G. Bond and several other capitalists are forming an organization to build a railroad and establish a steamship line. The railroad will probably run from Birmingham to Pensacola, Fla., and there connect with steamers for New York.

Charleston, S. C.—Street Railroad.—The stockholders of the Mt. Pleasant & Seaview City Railroad Co., previously mentioned as having been purchased by J. R. Kennerly and others, will hold a special meeting on the 20th to consider whether to issue 500 six per cent. bonds of \$1,000 each, and also as to the purchase of the New Brighton Hotel on Sullivan's Island.

Chattanooga, Tenn.—Railroad.—The Chattanooga Southern Railroad, mentioned last week, is being surveyed and located as far south as McLeomore's Cove, Ga.

Camden, S. C.—Railroad.—The Camden branch of the South Carolina Railway, mentioned last week, is to be laid with new steel rails.

Columbia, S. C.—Railroad.—The Spartanburg, Union & Columbia Railroad, part of the Columbia & Greenville Division of Richmond & Danville Railroad, is to be relaid with steel rails.

Covington, Ga.—Railroad.—The legislature has



passed a bill to incorporate the Covington & Cedar Shoals Railroad Co., previously reported as organized.

Denison, Texas.—Railroad.—The Choctaw Coal & Railway Co. has opened up its coal mines and expects to have about 25 miles of track finished and in operation by January 1.

Decatur, Ala.—Dummy Railroad.—A dummy railroad to New Decatur is projected.

Gadsden, Ala.—Railroad.—A meeting of the stockholders of the Chattanooga, Gadsden & Birmingham Railroad, recently reported, has been held and directors elected. Negotiations are pending with capitalists for the construction of the road.

Gadsden, Ala.—Railroad.—It is reported that parties who are building the town of Manchester have bought the Tennessee & Coosa Railroad and will make a trunk line of it in a short time.

Gainesville, Ga.—Railroad.—The legislature has passed a bill to incorporate the Kingston, Waleska & Gainesville Railroad Co.

Gainesville, Ga.—Dummy Railroad.—It is stated that the Gainesville & Hall County Street Railway Co. will put on a dummy as soon as the road-bed can be put in order.

Goldust, Tenn.—Tram-road.—J. N. Robbins contemplates building a tram-road.

Helena, Ark.—Railroad.—The Louisville, New Orleans & Texas Railway Co. (office, Memphis, Tenn.) are building a road along the line of the old Mobile & Northwestern from Glendale (opposite Helena) to Lula, Miss.

Helena, Ark.—Railroad.—The surveys for the Helena, Tupelo & Decatur Railroad have been completed from Helena to Tupelo, Miss. J. L. Finley, of Tupelo, is president.

Jacksonville, Fla.—Railroad.—The Americus & Jacksonville Railroad Co. has been incorporated.

Knoxville, Tenn.—Railroad.—The Carolina, Knoxville & Western Railroad will be let to contract early in the year.

Laney, Ala.—Railroad.—The railroad previously reported as to be built by J. C. Laney has been partially constructed and an engine has been purchased.

Louisville, Ky.—Railroad.—The engineers of the Louisville, Hardinsburg & Western Railroad Co. decided to make another survey. The road will probably pass through Hartford.

Macon, Ga.—J. S. McTighe & Co., mentioned last week as having secured contract for the construction of the Macon & Birmingham extension of the Georgia Southern & Florida Railroad (office, Macon), have sublet the contracts for 36 miles of the road. D. T. Hartnett & Sons received contract for 15 miles; Southerland & La Rue, McLaughlin Bros., Georgia, Birmingham & Grana, Kansas City, Mo., P. J. Coffman, W. S. O'Keefe, J. B. Lewis and Hayes Bros., Chicago, Andres Bros. Contracting Co., S. A. Campbell, New Orleans, N. T. Hollingsworth, Raleigh and N. P. Nelson, Des Moines, Ia., 5 miles each. Contract for 35 miles more will be let soon. Road is to be 30 miles long and will have 5 bridges aggregating 2,100 feet and a tunnel probably 2,000 feet long in Oak mountain.

Macon, Ga.—Railroad.—It is rumored that the Western & Atlantic Railway Co. (office, Atlanta) will build a new short line to Florida.

Memphis, Tenn.—Railroad.—The stockholders of the Tennessee Midland Railway Co. will hold a meeting December 4 for the purpose of approving and confirming the issue of income bonds and executing a mortgage on the same.

Meridian, Miss.—Railroad.—It is reported that the Meridian & Tuscaloosa Railroad will soon be built.

Minter City, Miss.—Railroad.—The contract for building the Tallahatchie branch of the Louisville, New Orleans & Texas Railroad (office, Memphis, Tenn.) has been awarded Messrs. Flynn & De Garia. It is to be completed by March 1.

Mobile, Ala.—Railroad.—About 8 miles of grading of H. Austill's 36-mile railroad has been completed. Work on it will be resumed next month.

Montgomery, Ala.—Railroad.—It is stated that work will be begun at once on the grading of the Montgomery, Tuscaloosa & Memphis Railroad, recently mentioned.

New Berne, N. C.—Railroad.—It is reported that the Wilmington & Weldon Railroad Co. (office, Wilmington, N. C.) will build a road from Bell's Ferry to New Berne.

Orangeburg, S. C.—Street Railroad.—The Orangeburg Street Railroad Co., lately mentioned as contemplating putting on a dummy engine, is thinking of extending its road also.

Orlando, Fla.—Railroad.—The Orlando & Winter Park Railroad, previously reported, is being extended from Osceola to Oviedo. It is rumored that the company will continue its line to New Smyrna as soon as possible.

Pensacola, Fla.—Railroad.—A corps of surveyors will be sent out by the Mexican Gulf, Pacific & Puget Sound Railroad Co., previously mentioned, to locate the road. It is proposed to build the line to York, Ala., during the coming year.

Ritchie, W. Va.—The survey of the Ohio & West Virginia Southern Railroad, previously noted, has been completed to Conwallis.

Roanoke, Va.—Railroad.—A meeting of the Roanoke & Southern Railroad Co. and of the Virginia & North Carolina Construction Co., both previously reported, has been held. It is expected that the road will be finished from Walnut Cove, N. C., to Martinsville, Va., shortly. The directors have also decided to begin work from Roanoke by spring if the city will make an additional appropriation of \$100,000.

Rutherfordton, N. C.—Railroad.—J. B. Ross has secured a contract for three miles of grading on Charleston, Cincinnati & Chicago Railroad, lately mentioned.

Selma, Ala.—Railroad.—Negotiations are pending for the immediate construction of the Selma & Bessemer Railroad, recently reported.

Staunton, Va.—Railroad.—The New York Mining & Construction Co., mentioned elsewhere in this issue as incorporated, contemplates constructing a railroad from Staunton to the North Mountain anthracite coal fields and thence to Charleston, W. Va.

Stuttgart, Ark.—Railroad.—The first division of the Kansas City, Arkansas & New Orleans Railroad is under construction from Beebe. The line will extend from Beebe, Ark., to Monroe, La. A. Kennedy, of Chicago, Ill., can give information.

Tallahassee, Fla.—Railroad.—The right of way for the Apalachicola, Tallahassee & Georgia Railroad has been cut to Crawfordville.

Valdosta, Ga.—Street Railway.—The legislature has passed a bill to incorporate the Valdosta Street Railway Co., previously mentioned as organized.

Washington, D. C.—Railroad.—The surveys for the Washington branch of the Gettysburg & Harrisburg Railroad (office, Carlisle, Pa.), previously reported, have been made as far as Union Mills, Md.

Washington, D. C.—Pneumatic Railway.—The Metropolitan Street Railway Co. will lay 1½ miles of track for the experiment of the Judson Pneumatic system, and, if successful, will extend it to all their lines. The line to be laid at present will cost about \$75,000.

Wilmington, N. C.—Railroad.—Fleming Gardner, engineer of construction Wilmington & Weldon Railroad Co., invites proposals for the graduation and trestle-work from Greenville, Pitt county, to Kinston, Lenoir county. Bids opened November 23; work must be finished by May 1, 1890. Plans and specifications can be seen at company's office at Greenville, N. C.

THE annual meeting of the stockholders of the Valley Railroad Co. was held November 15. The report of President Mayer made the following exhibit: Gross earnings from traffic, \$116,402.48, being an increase of \$4,120.19 over 1888. Revenue from other sources, \$7,138.46, being an increase of \$1,573 over the year 1888. Expenses for the year, \$88,564, being a decrease of \$1,450.76 on last year; net earnings, \$34,975.90, being an increase of \$7,144.77 over last year. The bonded indebtedness is as follows: First mortgage bonds, authorized issue, \$1,000,000; in the treasury of the company, \$250,000; outstanding, \$750,000.

### Making Bessemer Iron in Alabama.

TALLADEGA, ALA., Nov. 1, 1889.

Editor *Manufacturers' Record*:

With regard to Bessemer iron, there is no doubt that we can make this quality of iron with phosphorus not exceeding .06 per cent. We have specially selected our ore lands with the object of getting ores as low in phosphorus as possible, and by careful classification we are doing as above named and sending our produce to the principal steel makers in the States.

JOSHUA LANCASTER.

D. L. RENTCH, Shepherdstown, W. Va., wants address of manufacturers of burlaps. He is to start mattress factory.

F. J. SELDEN & Co., postoffice box 485, Knoxville, Tenn., want to correspond with parties who can furnish standard lime barrels in shook form.

## GREAT GOLD DISCOVERIES.

### The Reports from North Carolina Not Exaggerated.

[Spec. correspondence MANUFACTURERS' RECORD.]

SALISBURY, N. C. Nov. 18, 1889.

For the past ten days there has been much excitement here over the reports that a wonderfully rich deposit of gold had been found in Montgomery county. It was thought that the reports were greatly exaggerated, but investigation has proven the fact that all reports are absolutely true, and that the amount of gold found is much greater than is admitted. Several different parties from Salisbury have visited the place where the gold is being found, and they say that nothing has been overdrawn, that the amount of the precious metal found is almost incredible and that the excitement there is at fever heat. Your correspondent, desiring to get a truthful statement of the facts in the case, this morning went to see a gentleman well skilled in mining matters and an expert mining engineer who had made two visits to the scene of excitement, having returned from there late Saturday afternoon, and asked his views. He said nothing had been overdrawn, that the accounts published in the Salisbury Herald were true in the main, and that the find was the richest ever discovered in North Carolina, if not in the United States. The discovery of gold was accidental, and was made about six weeks ago by a man who was out turkey hunting. He saw something shining on the ground, which proved to be a nugget of gold, and further investigation brought more to light. The land belonged to Mr. P. C. Saunders, commonly called "Tebe," who was informed of what had been discovered by the turkey hunter, and who immediately prosecuted further search, bringing to light the rich deposits of gold which are now creating so much talk. Tebe Saunders and his companion gathered several thousand dollars' worth off the surface before the news of the find became known, and then others began flocking there. It is an unwritten law in the gold section that anyone may wash for the precious metal who will pay toll to the land-owner, and it was only a few days before about forty men were at work on Saunders' place. Not one of these went away empty-handed, for gold was found in the greatest profusion ever seen in North Carolina. It appeared in pockets, in single nuggets and in veins, and was gathered with very little work. After the surface was washed a hole was dug and exploration on the veins begun. Five or six veins have been discovered, all of them bearing gold, and at a depth of 23 feet they have increased instead of diminished in size and richness. The new find is on the Uwharrie range in the southwestern part of Montgomery county, 1½ miles south of Bunnel mountain. About three hundred yards below it is the Worth mine, which has been worked for about 40 years and has yielded a good quantity of gold, and for several years there has been prospecting along the watercourses and ravines by tracing the gold grit deposit. All this work was done below the hill or ridge upon which Saunders' find was made, and as no veins were ever discovered either in the Worth mine or on any of the gullies or watercourses, it is thought that all the gold ever found in them was washed down from the rich deposits on the summit of the ridge. Saunders' lucky find has set the people of that whole section wild, and prospecting is going on in all directions. The search for gold is most thorough, and it will not be a matter of much surprise if other very rich deposits are found. While other places are being searched Saunders and his men are steadily at work and are bringing to light enormous amounts of

gold. Two men on last Thursday got four pounds as the result of their day's work and others have secured lesser amounts. It is impossible to form anything like an accurate estimate of the amount of gold that has been taken from Saunders' property. The people are simple country folks and have no correct means of measuring the gold in their possession, and besides they are reticent about the matter, being told by Saunders not to talk. Enough is known, however, to say that the amount taken out in the last four weeks is worth at the lowest estimate \$200,000, and it may reach twice or three times that amount. The gentleman who furnished me with my information says that the lowest estimate placed upon the amount of gold taken out is one and one-half bushels, and that from what he could glean from the people, and from his own knowledge of mining, he is confident that the amount is underestimated. The number of men who have worked on the property on shares since the gold was first discovered is between thirty and forty, and inquiry among them elicited the fact that their share of the gold has amounted to from \$1,500 to \$3,500 each, a fair average being \$2,500 to the man. These men paid Saunders five-eighths of the gold as his share, and it will thus be seen that the estimate of \$200,000 for the total amount taken out is a very conservative one. Six weeks ago "Tebe" Saunders was a poor man with a mortgage of \$1,000 on his farm. To-day he is worth a cool \$100,000, and his wealth is increasing at a rate that will soon make him a millionaire unless his supply of gold suddenly gives out, and of this fact there seemed to be no prospect at noon last Saturday. The land where the gold was discovered has been in cultivation for a number of years, and the exact spot where the holes are now being dug for gold was for five or six years planted in sweet potatoes. Notwithstanding that the potatoes were growing up on top of the richest deposit of gold ever known in the State, it was left for accident to discover it, while men worked and walked over it for years, unconscious of its presence. The whole thing sounds like some fairy tale and appears too astonishing to be true; but the gold is there to show for itself, and the people are still getting it from the ground. When the truth is brought to light in all its details and all the gold accounted for, it is confidently expected that the facts will be much more startling than now thought. Nothing like it has ever been heard of in this State, and the mine is claimed to be the richest in the world. We are all awaiting future developments. If anything is brought to light worthy of note you will be duly informed thereof.

J. R. WHICHARD.

[Spec. correspondence MANUFACTURERS' RECORD.]

CHATTANOOGA, TENN., Nov. 19, 1889.

The iron market is stiffening up, with buyers and sellers apart on heavy transactions; in fact, just at present it is impossible to get offerings from Southern furnaces for large amounts, say 1,000 to 10,000 tons. The only transactions reported are small hand-to-mouth purchases by the trade at \$15.50 for No. 1 foundry. Boston has made some earnest inquiries for lots of 5,000 to 10,000 tons of Southern pig, but it has been impossible to get an offer. One mill man reports a stock of 2,000 tons gray forge in hand bought at \$10.70 delivered. This will supply him for some six weeks yet. All the iron industries here are running on full time, with good business and plenty of demand for the near future. The vigor of the iron trade is a strikingly happy feature.

PERCY CLARK.

THE Tampa Lumber Co., Tampa, Fla., wants the addresses of manufacturers of wooden barrel hoops.



## Southern Financial News.

## NEW BANKS.

Albino, Texas.—The Merchants & Farmers' National Bank, lately noted, have their building in process of erection.

Baltimore, Md.—The Mercantile Trust & Deposit Co. has increased its capital from \$500,000 to \$1,000,000.

Brenham, Texas.—The Second National Bank will be organized. Heber Stone has started a private bank.

Chattanooga, Tenn.—The Chattanooga Electric-light Co. will issue \$200,000 of bonds to enlarge its plant.

Clarendon, Texas.—The Bank of Clarendon, previously mentioned, has been organized with Charles Goodnight as president.

Conyers, Ga.—Almond & Lanford have engaged in the private banking business.

Cumberland Gap, Tenn.—J. L. & C. H. Rogers will soon organize a national bank.

Dadeville, Va.—It is stated that A. E. Bateman will soon start a bank.

Homer, La.—The Homer National Bank, previously reported, has been organized with \$75,000 capital. W. T. Otis is president.

Huntsville, Ala.—The Huntsville Banking & Trust Co. has closed its business, and the First National Bank of that town will take its place.

Kennedy, Ala.—The establishment of a bank is being agitated.

Murray, Ky.—A. J. Barnett is reorganizing as the Bank of Murray. Authorized capital \$100,000; \$30,000 paid.

Rockville, Md.—It is rumored that a loan and trust company will soon be organized.

Rogers, Ark.—The Citizens' Bank has started in business with H. L. Stoud, cashier.

Rome, Ga.—The Georgia Banking & Trust Co., of Rome, has been incorporated.

Smithville, Ga.—The Bank of Smithville, previously rumored to be started, has been incorporated.

Tazewell C. H., Va.—The Clinch Valley Coal & Iron Co. will probably establish a bank at Richlands, a new town it is building 20 miles west of Tazewell C. H.

Throckmorton, Texas.—W. H. Beckham has started a private bank.

Van Alstyne, Texas.—A national bank with \$50,000 capital is being organized.

Waddy, Ky.—The Deposit Bank has been organized with \$25,000 capital. Richard R. Sandusky, cashier.

Ashland, Ky.—The Norton Iron Works have declared a dividend of \$24,000 on the capital stock.

Baltimore, Md.—The National Trust & Guarantee Co. will ask for 50 per cent. additional of the unpaid subscription to the capital stock.

Baltimore, Md.—The First National Bank has declared a semi-annual dividend of 3 per cent.

Darlington, S. C.—The Darlington Manufacturing Co. has declared a semi-annual dividend of 3 per cent. Company operates a cotton mill.

Roanoke, Va.—The People's Perpetual Building & Loan Association has declared a semi-annual dividend of 5 per cent.

Wheeling, W. Va.—The Pittsburgh, Wheeling & Kentucky Railroad Co. (office, Pittsburgh, Pa.) will receive proposals until November 28 for \$4,000 of the first mortgage bonds dated October 6, 1877.

ICE FACTORY.—RICHMOND, VA., Nov. 16, 1889.—We are organizing a pretty strong company here to build and sell ice-making and refrigerating machinery. Capital \$250,000.

SIMPKIN & HILLVER.

IRON FURNACE AND CAR-WHEEL WORKS TO BE BUILT.—ROME, GA., Nov. 12, 1889.—Contract has been closed with reliable parties to build a 50-ton charcoal furnace at Rome, work to commence in 10 days; also a car-wheel works. This is reliable.

JOHN I. SEAY.

STILL BUYING TIMBER LANDS.—STURGIS BAY, WIS., Nov. 16, 1889.—We bought some 26,000 acres of long-leaf-pine lands in St. Helena and Tangipahoa parishes. No plantation lands. Will not build any mills this year. Have not yet got all the land we want.

LEATHEN & SMITH.

WILL BUILD KNITTING MILL.—NORFOLK, VA., Nov. 13, 1889.—The Chesapeake Knitting Mills has been incorporated and \$80,000 capital been subscribed to build a 6-set knitting mill in the suburbs of this city. The mill will be equipped with the most improved machinery, and is expected to be in operation in four months. It will employ from 150 to 200 hands. The concentration here of railroad lines which are extending their connections in all directions, and of steamer lines to Baltimore, Philadelphia, New York and Boston, makes this a very advantageous point for manufacturing.

BARTON MYERS.

## Industrial Notes from Decatur.

DECATUR, ALA., Nov. 16, 1889.

Editor Manufacturers' Record:

The United States Rolling Stock Co.'s shops are working on unfinished orders for 250 cars for the Louisville & Nashville Railroad, 400 flat and 100 coal cars for the San Antonio & Aransas Pass Railroad, and 52 cars for the Georgia Central, and will soon begin on 1,000 cars for the Savannah, Florida & Western.

Graders are at work in large force on the new line of the Memphis & Charleston Railroad, which is intended to change the route of their main line for a distance of about four miles, so as to make it run through New Decatur, instead of through old Decatur only as heretofore.

The line of the Decatur, Chesapeake & New Orleans Railway is being surveyed by its engineering corps into New Decatur. The road it already built from the northeast to within 30 miles of this place.

Steps are being vigorously taken to insure the extension of the Rome & Decatur Railroad at once to New Decatur from the southeast. This will give a direct south-eastern outlet to Brunswick and other Southern Atlantic seaports. The present terminus of the road is at Attalla, about 50 miles from New Decatur.

The cotton compress started the season of 1889-90 with plenty of work in sight for the season, and is running regularly.

The Moulthrop-Stevens brick-yards are about to burn another kiln of 260,000 brick. Building is going on so rapidly that the brick-yards here can hardly keep up with the demand.

The Ivens & Son Machine Co.'s shops are crowded with work, especially orders from Louisiana for large engines and boilers.

The land company have discovered an immense deposit of clear flint gravel three feet below the surface on their property.

NEW ELECTRIC PLANT.—WESTON, W. VA., Nov. 12, 1889.—A corporation has been formed to supply the town of Weston with electric light. The company agrees to begin lighting with electricity by Christmas.

W. W. BRANNON, Mayor.

BIDS WANTED FOR COLLEGE.—FLORENCE, ALA., November 16, 1889.—The Florence Educational, Land & Development Co. are now ready to contract for the building of their college building, which is to be 241 feet long and about 141 feet wide, four stories high, including basement, to be built of brick. Bids to be received up to noon December 3, 1889.

E. B. COMLY, Gen'l Man.

ELECTRIC-LIGHT PLANT.—LAREDO, TEXAS, November 16, 1889.—The Laredo Improvement Co. has got franchise from city to supply city with electric light. They will put in arc and incandescent lights. This will be run in connection with their electric street railway. We have an electric company here now.

LAREDO IMPROVEMENT CO.

NEW COTTON MILL.—HIGH POINT, N. C., Nov. 14, 1889.—There is a 5,000-spindle mill to be started at an early day in Greensboro, of which I shall probably have the management after the first of the year. D. M. C. Burban, of Greensboro, is now erecting a building for that purpose, 60x274 feet. We are in the market for an engine of the Corliss type, 120 to 150 horse-power. Would buy a first-class second-hand engine if it was about good as new and but little used. We will buy and put in a 100-light electric plant. Enquiries addressed to me at this place for the present will have proper attention.

R. E. CAUSEY.

## P. J. GOODHART &amp; CO.

(Members of the New York Stock Exchange.)

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AND MEMBERS OF THE

Baltimore, New York and Philadelphia Stock Exchanges.

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Interest allowed on deposits of Banks, Bankers, Corporations and Individuals. Railroad, Municipal and Other Loans Negotiated, and advances made on Grain, Cotton, Stocks and Bonds, and other approved collateral.

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Drafts Collected in all parts of the World.

BROWN, SHIPLEY & CO., LONDON.

Financial Agents of the United States Government in England.

Baltimore Stock Exchange  
Quotations.

Reported by ALEXANDER BROWN & SONS, Bankers, Baltimore.  
BALTIMORE, Nov. 20, 1889.

	BID.	ASKED.
Virginia 6's Consols C.....	38	39
N. Carolina 4's.....	96	97
N. Carolina 6's.....	125	126
Norfolk Water 8's, C.....	126	127
Atlanta & Charlotte.....	89	90
Ga. Car. & N. 5's.....	103	104
Wil. Col. & Aug. 6's.....	118	119
Atlanta & Char. 1st, 7's.....	119	120
Atlanta & Char. income 6's.....	104	105
Col. & Green. 1st, 6's.....	105	106
Col. & Green. 2d, 6's.....	82	83
Va. Midland, 1st, 6's.....	120	121
Va. Midland, 2d, 6's.....	116	117
Va. Midland, 3d, 6's.....	109	110
Va. Midland, 5th, 5's.....	99	100
Char., C. & Aug. 1st, 7's.....	110	111
Char., C. & Aug. 2d, 7's.....	116	117
West Va. Central 1st, 6's.....	109	110
Ga. Pacific 2d, 6's.....	81	82
Cape Fear and V. Valley 6's, A.....	106	107
Cape Fear & V. Valley 6's, B.....	104	105

## Foreign Exchange Quotations.

ALEXANDER BROWN & SONS.

BALTIMORE, Nov. 20, 1889.

Bank of England rate 5 1/2.

	Selling.	Commercial.
Sterling dull.		
60 days.....	481	479
3 days.....	485 1/2	479 1/2
France—		
60 days.....	521 1/2	
3 days.....	518 1/2	
Reichmarks—		
60 days.....	94 1/2	93 1/2
3 days.....	95 1/2	94
Guilders—		
60 days.....	40 1/2	39 1/2
3 days.....	40 1/2	39 1/2

CHAS. ROBERTS, President.

B. T. KIMBROUGH, Vice-President.

## Merchants &amp; Farmers' Bank, Oxford, MISS.

Subscribed Capital, \$100,000.

Paid-up Capital, \$50,000.

CORRESPONDENTS: New York Western National Bank; New Orleans State National Bank.

SPECIAL ATTENTION PAID TO COLLECTIONS.

(Members of Baltimore Stock Exchange.)

## WILSON, COLSTON &amp; CO.

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Office and Banking Building, with 50 per cent. stock bonus. Other Choice Investments yielding 6 per cent. and Upwards.

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GENERAL AGENT,

50 State Street, Boston, Mass.

JOHN L. WILLIAMS & SON,  
BANKERS,

—RICHMOND, VA.

Our MANUAL OF INVESTMENTS, the largest publication of the kind published by any banking house in the United States, may be had upon application by parties interested.

Richmond Stock Exchange  
Quotations.

Reported by JOHN L. WILLIAMS & SON, Bankers, Richmond.

RICHMOND, VA., Nov. 18, 1889.

	BID.	ASKED.
North Carolina 4's, 1910.....	96	97 1/2
North Carolina 6's, 1910.....	125	127
Virginia New 3's, 1910.....	67 1/2	68
Lynchburg, Va., 5's, 1915.....	103 1/2	104
Petersburg, Va., 5's, 1915.....	103 1/2	104
Norfolk, Va., 5's, 1915.....	103 1/2	104
Richmond, Va., 5's, 1915.....	113	115
Atlanta & Charlotte Ry., 1st 7's, 1907.....	119	121
Atlanta & Charlotte Ry., 2d 7's, 1907.....	104	106
Char., Col. & Aug. R.R. Gen. 6's, 1910.....	109	111
Georgia Pacific Ry. 1st 6's, 1910.....	113 1/2	115
Georgia Pacific Ry. 2d 5's, 1910.....	81	82 1/2
Ga. Pacific Income, 5's.....	39	41
Petersburg Railroad Class A 5's, 1910.....	108	110
Petersburg Railroad Class B 6's, 1910.....	106	108
Rich. & Danville R. R. Gold 6's, 1910.....	118	120
West. N. Car. R. R. Gen. 6's, 1910.....	96	100
Northwestern N. Car. R. 1st 6's.....	101	104 1/2
Atlanta & Charlotte R. R. Stock.....	89 1/2	91 1/2
North Carolina Railroad Stock.....	104	107
R. F. & Pot. R.R. Div'd Obligations.....	111	113
Virginia Midland Railway Stock.....	37	39
Sloss Iron & Steel Co. Stock.....	54 1/2	56
Sloss Iron & Steel Co. 1st 6's.....	97 1/2	99
Sloss Iron & Steel Co. 2d 6's.....	71 1/2	73

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Opp. Lowell Depot.

W. A. WEST, Cashier.

H. P. BRANHAM, Assistant Cashier.

# CONSTRUCTION DEPARTMENT.

**WE PUBLISH, every week, a list of every new factory, of whatever kind, projected anywhere in the South; every railroad undertaken, and every mining company organized. This information is always fresh, and, by enabling manufacturers to correspond with the projectors of such enterprises before their supplies of machinery have been purchased, is of great value. Manufacturers will find it to their interest to read this department carefully each week.**

\*Means machinery is wanted, particulars of which will be found in "Machinery Wanted" columns.

In correspondence relating to matters reported in this paper, it will be a favor if it is stated that the information was gained from the MANUFACTURERS' RECORD.

C. L. Merrill, of Danville, Ill., will shortly visit the South to locate a pump and box factory.

## ALABAMA.

Anniston—Foundry and Implement Factory.—J. H. Gill, of Raleigh, N. C., is prospecting with a view to moving his iron foundry and agricultural implement factory to Anniston.

Anniston—Iron Furnace.—The Woodstock Iron Co., lately mentioned as putting in blast one of its two new coke iron furnaces, has blown out its No. 1 charcoal iron furnace for repairs.

Aquila—Grist Mill.—H. F. Taylor has erected a grist mill at his Smith farm.

Bessemer—Coke Ovens.—The De Bardeleben Coal & Iron Co., mentioned in last issue as selecting a site for its new furnaces, is building 100 additional coke ovens.

Birmingham—Publishing.—W. L. Wilson and F. L. Wilson have incorporated the Wilson Publishing Co., capital stock \$30,000, to publish the Christian Advocate, &c.

Birmingham—Steel Plant.—It is stated that the Henderson Steel Co. will duplicate its steel plant now nearing completion at North Birmingham, both plants to be operated by the same power.

Chapman—Saw Mill.—The Rocky Creek Lumber Co. will put a new engine in its saw mill.

Eufaula—Publishing.—It is reported that Mr. Keiser will publish a newspaper.

Eufaula—Terra-cotta Works.—The erection of terra-cotta works is projected.

Florence—Implement Factory.—The Curry Cultivator Co. will enlarge its implement factory.

Florence—Cotton Mill.—The Florence Cotton Mills Co. has let contract to William Meyers to erect the building for its cotton mill reported in last issue. The building is to be 600x100 feet.

Florence—Electric-light Plant.—The Florence Electric-light Co., previously reported as to enlarge its plant, is erecting a two-story addition, 25x60 feet. Incandescent dynamos and other machinery for which contracts have been let will be put in. The cost of the improvements will be \$26,000.

Gadsden—Cotton Factory.—It is stated that all the capital stock has been subscribed to build the \$1,000,000 cotton factory lately mentioned, and that a site has been selected, and work will be commenced at once. The Gadsden Land & Improvement Co. can probably give particulars if report is correct.

Gate City—Glass Works.—The Pioneer Glass Co. is reported as to resume operations shortly with increased capacity.

Goodwater—Publishing.—The Farmers' Alliance contemplates publishing a newspaper.

Guntersville—Ginney.—A. G. Henry, Jr., has added another gin to his cotton ginney.

Helena—Rolling Mill.—The Shelby Rolling Mill Co. is the name of the company reported in last issue as purchasing the rolling mill of the Central Iron Works and to improve and put it in operation.

Jasper—Saw Mill.—Dean & King have erected a saw mill at King's.

Kymulga—Shingle Mill.—R. C. Carter is putting a new boiler and engine in his shingle mill and making other improvements.

Mobile—Street Paving.—The Mobile Coal Co. has been awarded a contract to clean and repair the streets for a period of 5 years and to lay 4,000

yards of cypress block paving each year, at \$21,000 per year.

Plantersville—Charcoal Works.—The Woodstock Iron Co., of Anniston, has purchased the timber land and logging road of H. Tibbit, and will, it is stated, manufacture charcoal.

Pollard—Saw Mill.—W. B. Franklin is erecting a saw mill near Pollard.

Sheffield—Glass Works.—The Sheffield Coal, Iron & Land Co. is negotiating for the removal to Sheffield of a large Massachusetts glass factory.

Sheffield—Mill.—Philadelphia parties have made a proposition to the Sheffield Coal, Iron & Land Co. to erect a large mill.

Stevenson—Dish Factory.—M. A. Dodge, of Chattanooga, Tenn., has contract to erect the building for the butter dish factory of Deynon & Cherry, previously reported. It is to be two stories, 26x60 feet.

Talladega—Cotton Factory.—The Talladega Manufacturing Co. has been incorporated by W. R. Golden, J. A. Eaton and J. O. Hinckley to erect a cotton factory. The capital stock is \$10,000.

Trussville—Iron Furnaces.—It is rumored that two more iron furnaces will be built.

Tuskaloosa—Carriage and Wagon Factory.—A party is prospecting with a view to erecting carriage and wagon factory.

## ARKANSAS.

Arkansas—Timber Lands.—C. R. Temple, of Chicago, Ill., will, it is stated, purchase 20,000 acres of timber lands bordering on the St. Francis river, and develop same.

Bay—Shingle Mill.—Townley Bros. intend adding shingle machinery.

Dardanelle—Gin.—Blevins & Craven, lately reported as to add a cotton gin and grist mill to lumber mill, have added the cotton gin and will put in the grist mill later.

Eureka Springs—Electric-light Plant.—The Interstate Gas Co., of St. Louis, Mo., proprietor of the Eureka Gas Works, has been granted a franchise to erect an electric-light plant.

Greenwood—Coal Mine.—The Home Coal Co. has purchased machinery to develop the Greenwood coal mines. This is probably the Greenwood Coal & Coke Co., previously reported.

Helena—Wells.—A stock company is being organized to sink wells for gas, oil or water. The secretary of the Chamber of Commerce can give particulars.

Monticello—Cotton Factory.—Efforts are being made to erect a cotton factory.

Redfield—Timber Land.—Crawford & Allen, of St. Louis, Mo., who have the contract for furnishing ties to the Gould railroads, have purchased 1,600 acres of timber land from Matilda F. Lusk, of Nashville, Tenn., for \$6,242, and will commence developing at once, employing 200 hands in cutting ties.

Russellville—Water Works.—The erection of water works is talked of. B. J. Strickland can give information.

Thornton—Saw Mill.—W. R. Pearson has purchased new machinery for his saw mill.

Warren—Lumber Mill.—The Thornton Lumber Co., of Thornton, is reported as to move its lumber mill to Warren.

## FLORIDA.

Arcadia—Phosphate Works.—The Peace River Phosphate Co., lately mentioned as to develop phosphate mines, is selecting a site for drying and roasting works.

Charlotte Harbor—Publishing.—Y. G. Lee has commenced the publication of the South Home.

Clay County—Distillery, etc.—J. W. Howell and B. H. Powell will develop 7,000 acres of timber land and operate a turpentine distillery.

Daytona—Wood-working Factory.—E. Dillingham has erected a wood-working factory, and will probably add a saw mill.

Fernandina—Timber Lands, &c.—Charles Easton, of Southsea, England, reported last week as investigating the timber lands of Samuel A. Swann with a view to purchasing for an English syndicate, will probably close the purchase about January 1. A mill is included also.

Floral City—Broom Factory.—R. C. Bradley contemplates starting a broom factory.

Hernando—Cigar Factory.—The Hernando Tobacco Co. will shortly start a cigar factory.

Kissimmee—Artesian Well.—The city is sinking an artesian well.

Lakeland—Cigar Factory.—Mr. Palmer and others will erect a cigar factory.

Lakeview—Publishing.—J. B. Beck, Jr., has commenced the publication of The Fragment.

Little River—Hair Factory and Mill.—The Biscayne Bay & Little River Palmetto Hair Fibre & Manufacturing Co. has been incorporated with C. S. B. Moffatt, president, to manufacture palmetto

hair fibre and conduct a general milling business. The capital stock is \$5,000.

Pensacola—Tannery.—A tannery will probably be established.

Tampa—Saw Mill and Barrel Factory.—The Tampa Lumber Co. is rebuilding its saw mill lately reported as burned. Machinery for the manufacture of common barrels from waste will be put in.\*

Tarpon Springs—Gas Works.—It is probable that gas works will be built.

## GEORGIA.

Albany—Water Works.—The Albany Water Works Co. is being organized to build water works.

Atlanta—Fertilizer Factory.—The Marietta Guano Co., lately mentioned, has its fertilizer factory nearly completed. It expects to add oil mill and acid works next year.

Brunswick—Brewery and Ice Factory.—J. R. Weed has contract for erecting the brewery and ice factory of the Brunswick Brewing & Ice Co. previously reported. The capital stock of the company is \$100,000.

Brunswick—Sewerage System.—The city will vote on December 14 on the question of issuing \$300,000 of bonds to construct a sewerage system and other public works.

Butler—Ginney.—A. J. Fountain has erected a cotton ginney.

Canton—Bagging Factory.—The Farmers' Alliance will probably organize a stock company to erect a cotton bagging factory. L. S. Ledbetter, of Cedartown, can give information.

Conyers—Medicine Factory.—The A. Q. C. Medicine Co. has been organized with Dr. J. A. Stewart, president; W. P. Bond, vice-president, and T. D. O'Kelley, secretary, to manufacture patent medicines. The capital stock is \$10,000.

Donaldsonville—Saw and Planing Mill.—John E. Donaldson will erect a saw and planing mill.\*

Enigma—Saw Mill.—Weston & Gunn have added planing and shingle machinery to their saw mill.

Griffin—Fertilizer Factory.—The Farmers' Co-operative Manufacturing Co. will put in new fertilizer machinery.\*

Locust Grove—Oil Mill.—R. F. Smith is president and S. B. Kimball secretary of the company previously reported as building cotton-seed oil mill.

Macon—Ice Factory.—The Planters' Oil, Guano & Ice Co. has ordered an ice machine for its ice factory mentioned in last issue of 25 tons daily capacity.

Macon—Oil Mill.—The Macon Oil & Fertilizer Co. is adding a new 100 horse-power boiler.

Montezuma—Shingle Mill.—W. W. Phillips contemplates erecting a shingle mill.

Montezuma—Laundry.—The mayor of the city is making efforts to organize a stock company for the purpose of establishing a steam laundry.

Rome—Iron Furnace and Car-wheel Works. C. A. Lyerly, Edward Watkins, L. S. Colyar and others, of Chattanooga, Tenn., reported last week as to build a charcoal iron furnace and car-wheel works, will commence work at once. The capacity of the furnace will be 50 tons.

Rome—Wagon Factory.—It is rumored that a large wagon factory will be established.

Rome—Water Works.—Parties have been inspecting the city water works with a view to purchasing. If sold, improvements or extensions will be made. The mayor can give information.

Savannah—Oil Mill, &c.—R. D. Benson, J. D. Moore, Charles W. Burton and others have chartered the Tide Water Oil Co., capital stock \$100,000, to manufacture animal, vegetable and mineral oils, turpentine, rosin, pitch, etc., staves, barrels, casks, etc.

Savannah—Rice Mills.—The Screven Rice Mill has built an elevator of 75,000 bushels capacity and the Planters' Rice Mill has put in new machinery.

Savannah.—The Chatham Investment Co. has been incorporated by Henry C. Cunningham and A. R. Lawton, Jr., to deal in real estate. The capital stock is \$25,000.

Smyrna—Woolen Mill.—The Concord Woolen Mills will, it is stated, rebuild at once its woolen mill, lately reported as burned, to have twice the capacity of former mill.

Walker Station—Grist Mill and Gin.—John P. Fort will probably rebuild his grist mill and cotton gin lately reported as burned in Lee county.

West Point—Flour and Grist Mill.—The Union Milling & Manufacturing Co. will rebuild its flour and grist mill recently burned.

West Point—Oil Mill.—The Planters' Oil & Manufacturing Co. states it will not add the 40 horse-power engine mentioned in last issue.

## KENTUCKY.

Boaz—Flour Mill.—Louis Heffer will erect a 40-barrel roller flour mill, and has let contract.

Catlettsburg—Saw Mill.—A St. Louis (Mo.) company is erecting a large saw mill.

Catlettsburg—Flour Mill.—J. G. Rotlan & Co. have enlarged their flour mill.

Dawson—Coal Mines.—It is stated that the purchaser of the 3,000 acres of coal lands lately mentioned is the Grand Rivers Coal & Iron Co. This is probably the Grand Rivers Co., mentioned last week at Grand Rivers.

Difficult—Flour Mill.—Gregory, High & Co. will erect a 50-barrel roller flour mill, and have let the contract.

Franklin—Flour Mill.—G. E. Leak will build a full roller flour mill with a capacity of 50 to 75 barrels every 24 hours.\*

Greenup—Stave Mill.—George Stephens & Co. have erected a stave mill.

Lexington—Rock Quarries.—The city will probably open new rock quarries to macadamize the streets.

Louisville—Wagon Factory.—The Cartwright Manufacturing Co., capital stock \$100,000, has been organized to build wagon factory. A. B. Davis will be president; W. C. Nones, vice-president; J. B. Baskin, secretary, and F. Cartwright, superintendent.

Louisville—Mirror Factory.—The Louisville Silvering & Beveling Co. has increased its capital stock so as to either purchase or build a new mirror factory.\*

Louisville—Planing Mill.—J. N. Struck & Bro. will put a new engine and boiler in their planing mill.

Louisville—Fire-brick Works.—K. B. Grahn & Co., of Fireclay, will, it is reported, move their fire-brick works to Louisville next spring.

Middlesborough—Planing Mill.—E. D. Chapman, previously reported as erecting a planing mill, has, with others, organized the Middlesborough Lumber Co.

Middlesborough—Fire-brick and Sewer-pipe Works.—Two parties have each leased clay deposits for the manufacture of brick, sewer-pipe, &c., and will start work with a capacity each of 12 M daily. The Middlesborough Town Co. can give information.

Middlesborough—New Industries.—The Middlesborough Power Co. has been organized to erect a "beehive" power plant. It is stated that 14 diversified industries will be located in the building.

Middlesborough—Laundry.—J. C. Teague will start a steam laundry and has ordered machinery.

Middlesborough—Publishing.—The News Printing Co. has been incorporated by T. H. Arnold and G. H. Dains to publish the News. The capital stock is to be not more than \$10,000.

Middlesborough—Stove Works and Machine Shops.—The Middlesborough Town Co. is negotiating for the establishment of stove works and machine shops.

Middlesborough—Coal Mines.—Two coal leases of 1,000 acres each and 8 of 500 acres each have been made, and mines will soon be opened. The Middlesborough Town Co. can give information.

Middlesborough—Fire-brick and Terra-cotta Works.—Parties have applied for leases to manufacture fire-brick, one works to have daily capacity of 10,000 brick and the other 15,000 brick. The Middlesborough Town Co. can give information.

Middlesborough—Brick Works.—An Alabama party has made application for lease for manufacturing all kinds of fire and red brick. The Middlesborough Town Co. can give information if anything is done.

Monfordsville—Bridge.—The building of an iron bridge across the Green river is projected. The mayor can give information.

Newport—Plaster Factory.—The Fitzgerald Patent Prepared Plaster Co. has been incorporated by R. Brenner, C. H. Fitzgerald, J. C. Buckley and others, for the manufacture of plaster. The capital stock is \$100,000.

Poole's Mill—Flour Mill.—The Wheelers will build a 75-barrel roller flour mill, and have let contract to Nordyke & Marmon Co.

Princeton—Mining and Natural Gas.—The Princeton Gas & Mining Co. has been incorporated with W. S. Powell, president; H. F. McNary, vice-president, and C. T. Allen, secretary, to develop gas, oil and minerals lands. The authorized capital stock is \$1,000,000.

Richmond—Packing-house and Soap Factory.—The establishment of a packing-house and soap factory is talked of.

Spottsville—Coal Mines and Tipple.—Charles Rarrick has opened coal mines at Baskett station and will erect a coal tipple.

Stanford—Water Works.—H. A. Evans, city



engineer, will prepare plans and specifications for the water works previously reported.

Stargis—Flour Mill.—D. A. Sturgis & Co. will repair their flour mill reported in this issue as damaged by a boiler explosion.

Whitesville—New Town.—A company is building a town near Whitesville to be called Dupoyster and will, it is stated, locate several large factories there.

#### LOUISIANA.

Alexandria—Water Works.—The construction of water works to cost \$9,000 is contemplated. The mayor can give information.

Algiers—Navy-yard.—The Navy Commission appointed to select a site for a navy-yard and dry-docks has reported in favor of Algiers. The estimated cost of construction is \$840,000.

Baton Rouge—Electric-light Plant.—Burke & Dougherty have purchased an incandescent light plant for the sugar-house on their Westovia plantation.

Gretna—Shingle Mill.—It is reported that Rathbone & Co., of Chicago, Ill., will erect a large shingle mill.

Gretna—Shingle Mill.—Western capitalists have recently purchased land at Harveysburg, near Gretna, and are erecting a large shingle mill to have a daily capacity of 250 M shingles. They will also build a wharf on the Mississippi river.

Homer—Saw Mill.—S. J. Kennebrew has recently erected a saw mill.

Kentwood—Saw Mill.—Bridwell & Co., of Oskya, Miss., are reported as to erect a saw mill.

Lake Charles—Ice Factory.—G. W. Randall, of Brownsville, Texas, is taking steps to erect an ice factory for next season.

Natchitoches—Bridge.—A company has been organized to build a toll bridge across the Cane river.

New Iberia—Electric-light Plant.—The New Iberia Electric Light & Power Co. has been organized with J. A. Breaux, president; William Robertson, vice-president, and W. M. Gates, secretary, to erect the electric-light plant, as stated in last issue, at the saw mill of Gall & Pharr. The capital stock is \$10,000. Contract has been let for a 600-light dynamo.

New Orleans.—The Guarantee Co. has been incorporated by C. F. Buck, L. S. Graham, J. Q. A. Fellows and others to deal in real estate and guarantee titles to real estate and securities. The capital stock is to be \$100,000.

New Orleans—Excelsior Factory.—An excelsior factory will probably be started.

New Orleans.—The Merz Universal Extractor & Construction Co. has submitted a proposition to the city to erect an apparatus for disposing of garbage without cremating it.

Robeline—Saw Mill.—Reives Bros. will build the saw mill to cost \$30,000 lately reported.

St. Helena Parish—Timber Lands.—The lands in St. Helena and Tangipahoa parishes, previously mentioned as purchased by Leatham & Smith, of Sturgis Bay, Wis., are long-leaf pine lands and not agricultural lands. Amount was \$6,000 acres. They will not build any mills this year.

#### MARYLAND.

Baltimore—Machine Shops.—The machine shops of George Page & Co., at Fayette and Schroeder streets, which have been idle for two years, will be reopened by George Frank.

Baltimore—Oil Works.—The Monumental Oil & Refining Co. has been incorporated by Alexander Applegarth, C. D. Fenstermaker, L. D. Sweeney and others for the manufacture of paint, oils and turpentine. The capital stock is \$500,000.

Baltimore.—The Maryland Construction Co. has been incorporated by J. B. McDonald, C. T. Crane, J. E. Marshall, Jr., and others for the conducting of a general contracting, forwarding and warehouse business. The capital stock is \$250,000.

Baltimore—Canning Factory.—The J. Winslow Jones Co. has been incorporated by Ira J. Chase, Alice L. P. Jones, John H. R. Nicholson and others for the manufacture and sale of canned goods. The capital stock is \$25,000.

Bloomington—Saw Mill.—It is reported that the Empire Saw Mill has been purchased by Cumberland parties.

Cumberland—Cracker Factory.—A cracker factory is projected.

Frederick—Bridge Works.—H. G. Welty has purchased a site and will erect works for the manufacture of iron and steel bridges.

Lonaconing—Electric-light Plant.—The erection of an electric-light plant is projected.

St. Michaels—Flour Mill.—The St. Michaels flour mill is being remodeled to the roller system.

Wye Mills—Creamery.—Miss Celia C. Davis will erect a creamery 24x40 feet.

Benning's, D. C.—Machine Shop.—The National Capital Street Car Motor Co. will erect a machine shop 24x70 feet.

Washington, D. C.—Ice Factory.—The American Ice Co. will enlarge its ice factory, erecting an addition 35x70 feet.

#### MISSISSIPPI.

Meridian—Compress.—It is reported that the Merchants' Warehouse & Compress Co., which is

erecting a cotton compress as lately mentioned, has purchased the Planters' compress.

Natchez—Macadam Road.—O'Brien & Co. have received contract to complete the macadam road to the National Cemetery.

Oxford—Water Works.—The city will decide by a popular vote on December 2 whether or not to build the water works lately mentioned. The mayor can give information.

#### NORTH CAROLINA.

Antioch—Saw Mill.—J. F. & D. M. McKay will move their saw mill from Red Springs to near Antioch.

Asheville—Fire-alarm System.—The city is considering the adoption of an electric fire-alarm system. The Gamewell system will probably be adopted. The mayor can give information.

Charlotte—Soap Factory.—A soap factory is projected.

Clinton—Veneer Works.—The Carolina Veneer Works will again enlarge its works, putting in additional butter-dish machines.

Greensboro—Cotton Mill and Electric-light Plant.—The cotton mill mentioned in last issue as to be probably built by O. S. Causey, of High Point, is now in course of construction by D. W. C. Benbow and will be a 5,000-spindle mill. The building is to be 60x274 feet and is to be lighted by electricity.\*

Haywood County—Gold Mine.—Campbell Delozier, of Knoxville, Tenn., is developing a gold mine.

Henderson—Grist Mill.—James Amos has rebuilt his grist mill, which was destroyed by a flood last summer.

La Grange—Cotton Factory.—An effort will be made to organize a stock company to erect a cotton factory.

Mt. Airy—Coal Mines.—Coal lands are being investigated. Mr. Robson is superintendent for the parties interested.

Mt. Airy.—Tobacco Factory.—L. W. Ashby & Sons will put steam power in their tobacco factory.

New Berne—Bottling Works.—James Redmond has put new machinery in his bottling works.

Pantego—Saw Mill.—The Baltimore Cedar Works, of Baltimore, Md., has purchased the saw mill and timber land of Burwell & Tazewell, of Norfolk, Va.

Sladesville—Saw Mill.—The Scranton & North Carolina Land & Timber Co., of Makelyville, has purchased the saw mill and timber lands of P. V. Clark.

Statesville—Tobacco Factory.—P. B. Key is reported as to erect a \$10,000 tobacco factory next spring.

Tarboro—Electric-light Plant.—An electric-light plant will probably be erected. The mayor can give information.

Uwharrie—Gold Mine.—Tebe Saunders is developing a gold mine.

Wilmington—Water Works.—The Clarendon Water Works Co. is thinking of changing the location of its stand-pipe mentioned last week. It is negotiating with contractors to resume work on its artesian well.

#### SOUTH CAROLINA.

Charleston—Electric-light Plant.—The Charleston Electric Light & Power Co. will enlarge its plant, erecting an additional building and putting in new dynamos and another engine.

Charleston—Hat Factory.—Efforts are being made to organize a \$25,000 stock company to manufacture hats.

Darlington—Cotton Mill.—The Darlington Manufacturing Co. has lately put new machinery in its cotton mill.

Dillon—Fertilizer Factory.—The Dillon Cottonseed Oil Mill Co. will add the fertilizer factory reported last week.\*

Edgefield C. H.—Telephone Line.—The Parkinsville, Modoc & Edgefield Telephone Co. has been incorporated by W. R. Parks, W. E. Prescott and J. D. Holstein to build a telephone line.

Greenwood—Tannery.—Dr. Simpson, of Prosperity, has purchased a site and will erect a tannery.

Lancaster—Shuttle-block Factory.—The Lancaster Manufacturing Co. contemplates adding the manufacture of shuttle-blocks to its spoke and handle factory and wants information about the business.\*

Port Royal—Dry-docks.—The Navy Commission reported in this issue as selecting Algiers, La., as a site for a navy-yard and dry-docks, recommends that a dry-dock, depot of naval supplies and coal station be established on Paris Island at an estimated cost of \$675,000.

#### TENNESSEE.

Bolivar—Flour Mill.—Mr. Dodds, president of the Woodland Mills, of Woodland, Mich., will probably organize a stock company to erect a 100-barrel roller flour mill.

Bolivar—Slave Factory.—Gardner Bros., of Union City, have decided to erect the slave factory mentioned in last issue.

Bradford—Saw Mill.—J. E. Beck & Co. have erected a saw mill near Bradford.

Brownsville—Saw Mill.—A. C. Ulmsted has recently erected a saw mill near Brownsville.

Brownsville—Saw Mill.—A saw mill has been erected at Brownsville Landing, on Hatchie river, by Barcroft & Dupree.

Buckeye—Coal Mines, &c.—The Pioneer Coal & Coke Co. is developing the coal mines as stated last week, and contemplates building the coke ovens in the near future.\*

Catlettsburg—Saw Mill.—C. W. Catlett is considering the erection of a saw mill.

Chattanooga—Medicine Factory.—L. Gerstle, of Bluff City, will move his medicine factory to Highland Park about January 1 and has purchased a site.

Chattanooga—Slave Factory.—A slave factory to employ 40 hands is reported as to be erected shortly.

Chattanooga—Electric-light Plant.—The Chattanooga Electric-light Co., previously reported as to enlarge its plant, will issue \$200,000 of bonds for that purpose.

Chattanooga—Medicine Factory.—The Bolton Medicine Co. has been incorporated by J. B. Nicklin, R. Morrison, W. W. Sylvester and others to manufacture a patent medicine. They will probably erect a factory.

Chattanooga—Telephone Exchange.—The Chattanooga Telephone Co. has expended about \$15,000 in improving its service, putting in a new switchboard, etc.

Chattanooga—Silver Mining.—The Little Silver King Mining Co. has been incorporated by N. C. Ford, P. A. Smith, S. A. Bright and others to mine for silver. The capital stock is to be \$500,000.

Dayton—Tile Works.—It is reported that John Welles, of Washington, Ohio, will erect tile works in or near Dayton.

Goldsmith.—J. N. Robbins will probably put in a bating machine for slats and baluster.

Greenville.—The Greenville Land & Improvement Co. has been incorporated.

Holders' Store—Planing and Saw Mill.—The Tennessee Saw & Planing Mills has enlarged its plant.

Jellico—Planing Mill.—John Africa will probably erect a planing mill.

Kenton—Saw Mill.—Henry Flowers contemplates adding spoke, shingle and felloe machinery to his saw and stave mill.

Kenton—Saw Mill.—Bogle & Moor are erecting a saw mill near Kenton.

Kingston—Saw Mill.—C. B. & S. M. French contemplates adding a planer and other machinery to their saw mill.

Knoxville—Planing Mill and Dry-kiln.—The Scottish Carolina Land & Timber Co. contemplates erecting dry-kiln, planing mill and other machinery.

Knoxville—Water Works.—E. Woltmann, of 21 Wall street, New York, N. Y., representing a company, has been granted a franchise to furnish the town of West Knoxville with water. Work is to be commenced within 10 days. The supply will be taken from Fountain Head Springs.

Knoxville—Barrel Factory.—F. J. Selden & Co., lately reported as to start lime works, will probably manufacture barrels.\*

Knoxville—Flour Mill.—J. M. and L. N. Still, lately reported as purchasing the Champion flour mill and to remodel and put it in operation, have with others organized the Lonsdale Mill Co. Contract for machinery has been let to the Richmond City Mill Works, of Richmond, Ind. The capacity will be 100 barrels daily.

Knoxville—Soap Factory.—Helmar & Gunn contemplates erecting a soap factory.

Knoxville—Carriage Factory.—Post & Keller will, it is reported, put new machinery in their carriage and wagon factory after January 1, 1890.

Knoxville—Marble Quarries.—J. M. Ross & Co. have made improvements at their marble quarries.

Knoxville—Machine Shops, &c.—It is reported that the East Tennessee, Virginia & Georgia Railroad Co. will soon commence the erection of the machine shops and roundhouse previously mentioned, and it is said that contract for grading the site has been let.

Meigs—Flour Mill.—D. M. Blevins will probably add a pair of rolls to his flour mill.

Memphis—Lumber Mill.—J. H. Anthony is enlarging his lumber mill, putting in new boiler and engine, surfacer and other machinery.

Moltke—Mining, &c.—The Moltke Mercantile & Mining Co. has been incorporated.

Neely—Saw and Grist Mill and Gin.—J. R. Campbell will build next spring the grist mill and cotton gin reported last week. A saw mill will probably be added.\*

Nettle Carrier—Saw Mill.—Charles Keisling and Leslie Winton have erected a saw mill.

Pulaski—Steam Laundry.—The Pulaski Ice Co. states that it will not add the steam laundry previously reported at present.

Ringgold—Saw Mill.—A. Massie has located a saw mill on Dry creek.

Springfield—Flour Mill.—It is probable that a flour mill will be built.

Tullahoma—Ice Factory.—Hawkins & Co. will probably increase the capacity of their ice factory. Union City—Canning Factory.—It is reported that a canning factory will be erected. The mayor can give particulars.

Winchester—Flour Mill.—The Franklin County Farmers' Alliance has decided to erect the flour mill previously reported as contemplated (under Decherd) in Winchester.

Winchester.—The Tennessee & Alabama Land, Mining & Railway Co., of Franklin county, has been incorporated.

#### TEXAS.

Bonham—Ice Factory.—The Bonham Electric-light Co. will, it is stated, add the ice factory lately mentioned as projected to its plant.

Eagle Cove—Flour Mill.—Mr. Harris contemplates erecting a roller flour mill.

Eagle Pass—Electric-light Plant.—A \$25,000 stock company has been organized to erect an electric-light plant, and has let contract for machinery.\*

Fort Worth—Artificial Stone Works.—L. H. Crafts and R. Carruthers, of Wichita, Kan., have offered to erect artificial stone works if donated a site.

Galveston.—The Metropolitan Trading Association has been organized in London, Eng., by S. S. Lloyd, W. J. Barren, James Alexander and others for the transportation of live stock and dressed meats from Galveston to London. The capital stock is \$250,000. A. J. Dobson, of Galveston, is manager.

Henrietta—Canning Factory and Evaporator.—A company has been organized by A. K. Swann, C. W. Easley and others to erect a canning factory and fruit evaporator. Machinery has been purchased with a daily capacity of 1,000 cans. The capital stock is \$7,500.

Houston—Paving.—M. Butler, previously reported as receiving contract to pave certain streets with bois d'arc, has transferred his contract to the Houston Improvement Co.

Houston—Flour Mill.—W. H. Pindell, of Hannibal, Mo., will probably make an offer to put the Houston flour mill in operation.

Jefferson—New Factories.—Ohio parties are investigating with a view to erecting a cotton factory to employ 200 hands and a stove foundry.

Laredo—Planing and Saw Mill.—The Laredo Improvement Co. is negotiating to secure the erection of a large saw and planing mill.

Malakoff—Silver Mine.—Mr. Caloway, of San Antonio, is reported as developing a silver mine.

Marshall—Cotton Factory.—A proposition has been made by an Eastern capitalist to erect a cotton factory to employ 200 hands if given sufficient inducement.

Mobile—Lumber Mill.—Allen & Co. will add a new lathe mill to their lumber plant.

Prairie Plains—Artesian Well.—A. F. Rea contemplates sinking an artesian well.

Prairie Plains—Grist Mill and Gin.—C. F. Rea contemplates putting a new outfit in his grist mill and cotton gin next year, with the exception of a press.

Saunders—Lumber Mill.—J. H. Fleming & Son, of Fleming, have purchased the lumber mill formerly run by Thompson & Tucker, and will put it in operation.

Waco—New Town.—The Aransas Pass Colonization Co. has been organized with Eugene Williams, president; V. Nigro, vice-president, and J. E. Elgin, secretary, to build a town on Aransas bay. The capital stock is \$100,000. It has purchased 8,000 acres of land.

#### VIRGINIA.

Amherst—Barrel Factory.—Dobbs & Davies will manufacture barrels for own use.

Berkley—Knitting Mill.—The name of the company lately reported as organized to build a knitting mill is the Chesapeake Knitting Mills. It will be a 6-set knitting mill and employ about 150 hands. The capital stock is \$80,000.

Cape Charles—Jetties.—Captain J. C. Mallory, U. S. lighthouse engineer, Baltimore, Md., will receive proposals until November 30 for building jetties and shore protection of piers and stone at Cape Charles light station. The amount available is \$19,000.

Cedar Point—Chair Factory.—W. Miller is enlarging his chair factory.

Claremont—Cracker Factory.—Efforts are being made to erect a cracker factory on the co-operative plan.

Danville—Foundry and Machine Shop.—J. T. Kerr and J. A. Stout, of Durham, N. C., will erect a foundry and machine shop, 45x140 feet.

Luray—Saw Mill.—The Stony Man property is to be laid off in building lots, and a saw mill will be erected.

Norfolk—Peanut Factory.—Richard C. Scott, of Petersburg, has purchased the Walters peanut factory for \$12,000 and with others incorporated the American Peanut Co. to conduct a storage and peanut cleaning business. The capital stock

is to be not less than \$10,000 nor more than \$150,000. Mr. Scott is president.

Norfolk—Electric-light Plant.—H. L. Maynard and associates have organized a company to erect an electric-light plant. Mr. Maynard is president.

Norfolk—Publishing.—The Burroughs Publishing Co. will publish the Graphic at South Norfolk.

Richmond—Ice Factory.—The Transparent Ice Co. will build a 15-ton ice factory on the compression system and has let contract for outfit to Simpkin & Hillier.

Richmond—Machine Works.—The Richmond Ice Machine Co. has been incorporated with Herman Schmidt, president; William Simpkin, vice-president, and E. A. Catlin, secretary and treasurer, to manufacture ice machinery. The capital stock is to be \$25,000.

Roanoke—Engine Works.—Mr. Tubbs, of Philadelphia, Pa., is organizing a \$100,000 stock company to manufacture his patent three-cylinder engine.

Roanoke—Iron Furnace.—The Roanoke Iron Co., previously reported as to erect a 150-ton iron furnace, has let contracts as follows: To McClure & Ainslie, of Pittsburgh, Pa., to erect the furnace, to be 17 feet at its base and 82 feet high, 4 hot blast stoves each 18 feet in diameter and 60 feet high, and 14 steam boilers 5½ feet in diameter and 30 feet long; to the Robin-Rea Manufacturing Co., of Pittsburgh, Pa., for furnishing 2 upright blast engines with 8½-inch blast cylinder and 42-inch steam cylinder, and to the Wilson-Snyder Manufacturing Co., also of Pittsburgh, 6 improved pumps. Contract for the cast-house and boiler-house has been let to the American Bridge & Iron Co., as lately stated.

Roanoke—Brewery.—A \$50,000 stock company is being organized to build a beer brewery. H. Cruiger can give information.

Roanoke—Carriage Factory.—The Bridgewater Carriage Co., lately reported as to move its factory to Roanoke, has organized a new company with P. S. Miller, president; M. L. Fellows, secretary, and J. W. Coon, treasurer. The erection of factory will begin shortly.

Staunton—Coal and Iron Mines.—The New York Mining & Construction Co. has been incorporated with Charles G. Dyott, president and general manager, and E. B. Williams, secretary and treasurer, both of New York city, to develop coal, iron and timber lands. The capital stock authorized is \$2,500,000. This company contemplates building the Staunton & West Augusta Railroad.

#### WEST VIRGINIA.

Alderson—Canning Factory.—John W. Johnson will double the capacity of his canning factory next year.

Fairmont—Bottling Works.—Reymann Brewing Co., of Wheeling, has purchased property which, it is stated, it will remodel to be used for bottling works and storage.

Hancock County—Rolling Mill, etc.—W. F. Lloyd, of Pittsburgh, Pa.; P. E. Wollmar, of Cleveland, Ohio; A. J. Boyce, of East Liverpool, Ohio, and John Porter, of New Cumberland, are the purchasers of the land opposite East Liverpool, Ohio, previously reported. They contemplate erecting a large rolling mill, steel plant and probably car works.

Martinsburg—Electric-light Plant.—The Electric Illuminating Co. has been incorporated by C. J. Faulkner, G. M. Bowers, H. C. Berry and others to erect an electric-light and power plant. The authorized capital stock is \$50,000. The Edison system will be used.

Morgantown—Planing Mill, &c.—A stock company is being organized to erect a planing mill, foundry and machine shop.

Parkersburg—Furniture Factory.—A \$100,000 stock company is being organized by W. N. Chancellor, T. P. Jeffrey and others to erect a furniture factory. A site has been secured.

Parkersburg—Brick-yard.—John Daniels will start a brick-yard.

Shepherdstown—Mattress Factory.—D. S. Rentch has leased the old Shepherd mill and will start a mattress factory.

Summers County—Copper Mine.—Copper has been discovered on the lands of B. P. Shumate and T. Meador, in Bluestone district, and will probably be developed.

Weston—Electric-light Plant.—The Weston Electric Light, Power & Water Co. has been incorporated by J. S. Lewis, W. G. Bennett, W. J. Kitson and others to erect the electric-light plant previously reported. The authorized capital stock is \$100,000. Capacity will be 20 and 300 incandescent lights. The company will possibly erect water works also.

A BESSEMER MILL PROBABLE.—ASHLAND, KY., Nov. 13, 1889.—Negotiations for the erection of a large Bessemer steel plant at this place are in progress, with a fair showing of success.

JOHN RUSSELL.

## Building Notes.

Alexandria, Va.—Hotel.—Judge Norton has granted charter to the Ebbitt House Hotel Co.

Asheville, N. C.—The plans for the new courthouse to be built are nearly completed. The contract for the entire building will be let shortly.

Attalla, Ala.—Thos. J. Seay, of Montgomery, is erecting a block of buildings.

Baltimore, Md.—Edward J. Gallagher will erect 11 two-story dwellings on East Fayette street near Burke.

Baltimore, Md.—The city has leased the Bolton Depot property to the Permanent Exposition Association of Baltimore City for a term of 10 years, from July 1, 1890, for the location of an exposition building.

Baltimore, Md.—German H. Hunt will erect a fine dwelling on Eutaw Place; A. L. Gorter, three-story dwellings to cost \$25,000; F. O. Singer, 4 three-story dwellings. Plans have been made by C. L. Carson for a ladies' dormitory for the Women's College, previously reported, to have hot water heating, electric bells, boilers, fixtures, etc., to cost \$50,000.—B. F. Bennett has the contract.

Bamberg, S. C.—The branch of the Southern Mutual Building & Loan Association has been dissolved and an independent organization formed.

Barnesville, Ga.—The enlarging of Gordon Institute by the erection of more buildings is being agitated.

Charleston, S. C.—The plans for the new Emanuel African M. E. Church, lately mentioned, have been nearly completed, and work will be begun soon.

Charlotte, N. C.—A Congregational Methodist Church will probably be erected.

Charlotte, N. C.—The Lutheran Synod has resolved to expend \$10,000 in additional buildings at Cordia College, Conover. They also contemplate the establishing of a female seminary in Charlotte.

Chattanooga, Tenn.—The building reported last week as being erected by W. M. Wilhoite will be for the Methodist Advocate Historical & Publishing House. It will be four stories, 40x80 feet, with steam heat, elevator, &c., and will cost \$25,000.

Cullman, Ala.—An opera-house is being built to cost \$10,000.

Dallas, Texas.—The erection of a union depot is being agitated.

Danville, Va.—The Young Men's Christian Association contemplate purchasing the building they occupy and making extensive improvements.

Dayton, Ky.—The Victoria Cordage Co. will erect a building to cost \$10,000.

Denison, Texas.—The building of a female college is being agitated. If anything is done the Denison Land & Investment Co. can give particulars.

Durham, N. C.—R. I. Rogers will erect a brick and granite building.

Florence, Ala.—The First Baptist Church will probably erect a new brownstone edifice.

Fort Payne, Ala.—A building and loan association is being organized with \$25,000 capital.

Fort Payne, Ala.—Efforts are being made to form a stock company to build the \$125,000 hotel mentioned last week. The Fort Payne Coal & Iron Co. can give information.

Fortress Monroe, Va.—It is stated that the new hotel previously reported to be put up by John Chamberlaine will be built by the Newport News & Mississippi Valley Railroad Co. (office, Richmond).

Gadsden, Ala.—The Gadsden Building & Loan Association has been organized with W. M. Meeks, president.

Goldsboro, N. C.—The market-house to be erected, as mentioned in a previous issue, is to cost about \$15,000. T. H. Bain can give information.

Greenup, Ky.—William Sowards is erecting a two-story bank building.

Grenada, Miss.—The Methodists and Presbyterians contemplate building churches.

Guntersville, Ala.—The commissioners of Marshall county will erect a new jail. T. A. Street can give information.

Havre-de-Grace, Md.—Philadelphia parties have purchased Spesutia Island, at the mouth of the Susquehanna river, and will probably build a fine club-house on it.

Jackson, Tenn.—B. J. Bartlett has prepared plans for the courthouse previously noted, to cost \$25,000. P. D. W. Conger, the contractor, invites proposals.

Key West, Fla.—An appropriation has been made by the United States for the erection of two new officers' quarters at the naval station.

Linville, N. C.—Hotel.—The erection of another hotel to cost \$50,000 is contemplated. The Linville Improvement Co. can give particulars.

Louisville, Ky.—The contract for the building

of the Chesapeake, Ohio & Southwestern Railroad Co.'s union depot, lately mentioned, has been let. The cost will be not less than \$500,000. J. L. Frazier is the architect.

Louisville, Ky.—Curtin & Campbell are the architects for the new six-story building of the Louisville Safety Vault Co., previously mentioned. The cost will be \$250,000.

Louisville, Ky.—Hotel.—The South Park Hotel Co., recently mentioned as incorporated, has increased their capital stock to \$110,000.

Louisville, Ky.—Insurance men are agitating the erection of an insurance exchange modeled after the Chicago building, and to cost \$300,000.

Louisville, Ky.—McDonald Bros. have been selected as the architects of the addition to the Board of Trade Building previously mentioned.

Macon, Ga.—An addition, previously reported, will be made to the Mercer University; cost about \$20,000.

Macon, Ga.—J. S. Schofield has reversed his decision, reported last week, and has decided not to rebuild his hotel, which was burnt.

Macon, Ga.—The plans for the new Plant & Hardeman building, previously reported, are about finished. The building will be 40x110 feet and three stories high.

Macon, Ga.—The work on the foundation of St. Joseph's Roman Catholic Church, previously noted, is being pushed as rapidly as possible. The cost of the whole building will be about \$75,000.

Memphis, Tenn.—L. B. Wheeler, of Atlanta, Ga., is the successful architect for the new Cossitt Library, previously mentioned. It will cost \$73,000.

Nashville, Tenn.—Jesse French will erect a four-story building. John Lewis is the architect.

Orlando, Fla.—Rogers & Martin contemplate the erection of a warehouse for liquors with an icehouse in the rear to be used as a cold-storage for their beers and ales.

Oxford, N. C.—A branch of the Southern Building & Loan Association has been organized with A. H. A. Williams as president.

Peak, S. C.—A Lutheran church will be commenced in a few weeks.

Petersburg, Va.—P. M. Stewart expects to re-erect his building lately burned, and in that case will want an elevator.

Petersburg, Va.—The I. O. O. F. will rebuild its hall lately burned, but has not decided as to materials to be used in construction. J. M. Parham can give information.

Prescott, Ark.—Foster & Logan have commenced work on a two-story brick building 25x110 feet.

Red Boiling Springs, Tenn.—Hotel.—The Red Boiling Springs Hotel Co. has been incorporated by W. T. Glasgow, J. H. Nye, J. E. Dedman and others.

Richmond, Va.—P. T. Conrad will erect a three-story dwelling, with fixtures, speaking tubes, electric bells, ornaments, tiling, etc., to cost \$14,000. C. E. Cassell, of Baltimore, Md., is the architect.

Roanoke, Va.—Hotel.—Henry Felix will erect a building adjoining his hotel. It will contain 25 rooms besides a store on the first floor.

Rome, Ga.—A branch of the Industrial Building & Loan Association is being established by C. S. Haas, of Bloomington, Ill.

Ruston, La.—The Diebold Safe & Lock Co., of St. Louis, Mo., will construct a jail for Lincoln parish to cost \$13,000.

Savannah, Ga.—A branch agency of the Southern Home Building & Loan Association has been organized with R. S. Mell, president.

Savannah, Ga.—The Ocean Steamship Co. contemplates erecting a building for their offices.

Savannah, Ga.—The school board has decided to erect a graded school in the southern part of the city. Capacity is to be about 1,200 pupils. It is to be finished by September, 1890.

St. Augustine, Fla.—A local board of directors for the Southern Home Building & Loan Association, of Atlanta, Ga., has been organized with B. C. Rude, president.

Sylva, N. C.—The Equitable Manufacturing Co., lately mentioned as to probably build a hotel, will erect a number of houses for its employees.

Tazewell C. H., Va.—Hotel, &c.—The Clinch Valley Coal & Iron Co. contemplates building a \$40,000 hotel and about 40 houses at Richlands, a new town it is building 20 miles west of Tazewell Courthouse.

Washington, D. C.—W. A. Walker will erect a brick dwelling with Ohio stone trimmings, tiling, fixtures, etc., to cost \$15,000.

Washington, D. C.—Oliver Cox will erect two three-story dwellings to cost \$24,000; D. B. Groff, nine two-story dwellings to cost \$30,000; N. T. Haller, two three-story dwellings to cost \$6,000; J. T. Sanner, builder, a chapel to cost \$5,000; Calvin Cain, two three-story dwellings to cost \$30,000; Senator John E. Kenna, a dwelling to cost \$15,000; Mrs. E. D. Taylor, two houses to cost \$13,000;

W. H. Michael, two stores and dwellings to cost \$11,000; plans have been made by N. T. Haller for two three-story dwellings to cost \$6,000; by W. Bruce Gray for one six-story flat building; by F. G. Atkinson for three three-story dwellings to cost \$15,000; by N. T. Haller, four dwellings to cost \$20,000; also for a three-story brick house to cost \$5,000; by A. Goenner & Co., for coachmen's quarters to cost \$8,000.

Westminster, Md.—The trustees contemplate an addition to the main building of the Western Maryland College.

## MACHINERY WANTED.

If you desire to purchase machinery of any kind consult our advertising columns, and if you cannot find just what you wish, send us particulars as to the kind of machinery needed. We will make your wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. You will thus get all information desired as to prices, etc.

Barrel Machinery.—F. J. Selden & Co., P. O. box 485, Knoxville, Tenn., want to correspond with manufacturers of barrel machinery.

Barrel Machinery.—The Tampa Lumber Co., Tampa, Fla., wants machinery for manufacturing common barrels from waste about its mill.

Boiler and Engine.—R. Moore, Mobile, Ala., wants boilers and engines.

Coal Crushers.—The Pioneer Coal & Coke Co., Buckeye, Tenn., will want coke crushers in the near future.

Cotton Machinery.—C. M. Cook, Louisburg, N. C., wants prices on machinery for cotton factory for manufacturing plaids, osanburgs, &c.

Electric-light Plant.—R. E. Causey, High Point, N. C., will probably purchase a too-light electric plant for a cotton mill being built at Greensboro.

Electric-light Plant.—John S. Mitchell, Weston, Va., wants bids on an electric plant of 20 arc and 300 incandescent lights capacity, set up. Bids are to be with power and without power.

Elevator, Steam Heat, &c.—W. M. Wilhoite, Chattanooga, Tenn., wants elevators, steam heat, &c., for a four-story building 40x50 feet.

Elevator.—P. M. Stewart, Petersburg, Va., will probably want an elevator for new building to be put up.

Engine.—R. E. Causey, High Point, N. C., will purchase a Corliss engine of from 120 to 150 horse-power for a cotton mill being built at Greensboro. A second-hand engine will do if but little used.

Engine.—Walter Armstrong, North East, Md., will probably buy a 25 horse-power engine.

Engines.—Walter Armstrong, North East, Md., wants at once prices on a five horse-power horizontal engine mounted on four wheels, suitable for packing hay; also traction engine for same purpose.

Fertilizer Machinery.—The Dillon Cotton-seed Oil Mill, Dillon, S. C., wants prices on fertilizer machinery.

Fertilizer machinery is wanted by the Farmers' Co-operative Manufacturing Co., West Point, Ga.

Fire Apparatus.—The C. D. Woodson Fire Co. No. 1, Sheffield, Ala., will purchase fire apparatus. Address J. V. Allen.

Flour Mill.—G. E. Leak, Franklin, Ky., wants an outfit for a full roller flour mill of latest improved machinery; capacity 50 to 75 barrels every 24 hours.

Heating and Ventilating Apparatus.—John S. Power, Flemingsburg, Ky., wants address of parties who furnish heating and ventilating apparatus for schools.

Hoisting Machinery.—Michael Muldoon, Louisville, Ky., will purchase hoisting machinery.

Iron Beams, &c.—James H. Windrim, supervising architect, Treasury Department, Washington, D. C., will receive proposals until December 10 for furnishing iron beams, girders, wood joists, &c., for first floor of the United States custom-house, postoffice and courthouse building at El Paso, Texas.

Patterns.—S. J. Sullenberger, Morristown, Tenn., wants patterns for casting metal.

Planer and Lathe.—The Texarkana Car & Foundry Co., Texarkana, Ark., want a 26 to 30-inch iron planer and 36 to 40-inch iron lathe.

Pump.—J. R. Campbell, Neely, Tenn., will purchase a pump next spring.

Quarrying Machinery.—Michael Muldoon, Louisville, Ky., will purchase two double chauling machines.

Saw Mill.—J. R. Campbell, Neely, Tenn., will probably want a saw mill next spring.

Shuttle-block Machinery.—The Lancaster Manufacturing Co., Lancaster, S. C., wants to correspond with manufacturers of shuttle-block machinery.



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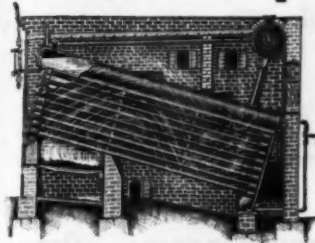
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Railway, Mining and Mill Supplies.  
ORDERS FILLED PROMPTLY.  
Chattanooga, Tenn.

Steam-heating Apparatus.—Strouse Bros., Baltimore, Md., will purchase steam-heating apparatus, with boilers.

Wood-working Machinery.—J. E. Donalson, Donalsonville, La., wants one planer and matcher that will plane 20 or 24 inches; one moulder, 8 or 10 inches; one resaw, to saw bevel edge weatherboards; one rip-saw frame and saw, hand-feed, and one emery knife grinder complete.

**BURNED.**Dallas, Texas.—The Capitol Hotel; loss \$50,000.  
Demopolis, Ala.—The Demopolis Oil Mill; loss estimated at \$125,000.

Louisville, Ky.—The Kentucky Classical and Business College; loss \$40,000.

Paris, Miss.—The grist mill and cotton gin of J. A. Fletcher; loss about \$3,000.

Petersburg, Va.—The carriage and harness factory of P. M. Steward &amp; Co.

Point Peter, Ga.—The saw mill and cotton gin of Thomas R. Tiller.

Salisbury, Md.—The canning factory of W. J. Windsor.

South Boston, Va.—The tobacco prizer of G. T. Norwood &amp; Co. destroyed by a tornado.

Sturgis, Ky.—The flour mill of D. A. Sturgis &amp; Co. damaged by a boiler explosion. It will be rebuilt.

Warrenton, Va.—The courthouse of Fauquier; loss \$20,000.

Woodlands, W. Va.—The flour and grist mill of William Suter.

The cotton gins of R. S. Bowden, Spartanburg, S. C.; M. Franklin in Burke county, Ga.; Samuel Carloss near Marvel, Ark.; James Lynn near Raleigh, N. C.; Thomas Smith at Mossy Dale, S. C. (P. O., probably Winnsboro, S. C.) and W. C. Koeper, Floresville, Texas.

TO ERECT LARGE OFFICE BUILDING—LOUISVILLE, KY., Nov. 18, 1889.—Our company will commence about the 1st of next February the erection of its building on the southwest corner of Fifth and Market streets in this city. The only change likely to occur in our plans is the addition of an eighth story, which is now under discussion.  
LOUISVILLE SAFETY VAULT & TRUST CO.**WONDERFUL STEEL.**

Some Remarkable Experiments with the Redemann-Tilford Steel.

The MANUFACTURERS' RECORD has heretofore given very full particulars of tests made of the Redemann-Tilford steel in Louisville, which attracted much attention. Tests have now been made at the navy-yard, in Washington, which show most astonishing results. The Louisville Courier-Journal of last Thursday gives the following full particulars:

"About one year ago the Redemann-Tilford Steel Co., of this city, issued a pamphlet in which it claimed that it could make fine steel at a trivial cost; that its steel would weld perfectly with its own or other steel and with iron; that it could make compound plates of any number of ply with perfect weld; that any steel subject to its treatment would be greatly improved; that it could make steel with a hard surface and a soft center, or back to any depth on a sliding scale; that the qualities thus imparted were permanent, and the steel could be heated and worked without losing them; that it could take old Bessemer rails and, at a small cost, convert them into fine steel, which would weld perfectly and could be turned into tool steel; that if these things were true, the new process was destined to revolutionize the steel world, and that of tools, rails, fence and telegraph wires, plow mold boards, safety vaults and safes, naval and ordnance purposes; in fact, for all uses to which steel is adapted, the new steel must, in the nature of things, largely supersede the old.

These claims were so extraordinary, and many of them so contrary to the experience of steel workers and the theories of scientists, that they were generally discredited. But it would now seem they are not without foundation. Already this company is creating a stir in the steel world, and more and more the new process is finding converts among the disbelievers.

A few months ago inquiry was made from official circles at Washington, of this company, if it was claimed that it could make a plate, say six inches thick, with three inches intensely hard, the other remaining soft. The company answered affirmatively. The officer said he deemed this impossible, as the most that had been ever accomplished in this direction had been mere case hardening, and if the Tilford Co. could do what it claimed, it was something entirely new, and it was believed the ideal armor plate would be reached. This led to negotiations for experiments at Washington under governmental supervision, the results of which are told in the following special to the Chicago Tribune, under date of Nov. 10: A SUCCESSFUL EXPERIMENT.

Further experiments with the Redemann-Tilford steel plates by experts at the Washington navy-yard are giving most satisfactory results. The officers and workmen of the yard are astonished over the demonstrations of to-day, while the inventors, always confident, are jubilant to-night. After the treatment of the plate referred to in these dispatches last night, the work of drilling holes through the plate for the purpose of obtaining parts for chemical analysis commenced, and nearly eight hours were consumed with the hardest-tempered drills in the yard drilling three holes through the six inches of plate. When it is considered that these same tools and machinery used on ordinary steel would do the same amount of drilling in that many minutes the hardness of the new metal can be well understood. The experiments, however, that showed the most remarkable results were those of the attempted cutting of two corners in the plate for the purpose of determining the tensile strength, elongation, etc., in comparison with two similar parts cut in the plate before the treatment. Two hours were spent in an effort to cut out these

two pieces, and when the yard closed this evening the workmen had succeeded in cutting only one-sixteenth of an inch into the hardened part of the plate, and that, too, after five of the best and most highly tempered tools in the yard had been broken. No difficulty was experienced in cutting through the first three inches of the plate, but the instant the cutting tool struck the line to which the plate had been submerged in the bath of sal ammoniac and glycerine there was a resistance plainly shown by the glancing of the tool and a bluish flame that at once demonstrated the material to be harder than the tool used against it. Workmen were kept busy in tempering and sharpening tools, but there was not a single instrument that could make any appreciable headway against the metal except, of course, the drills.

**WHAT THE TESTS SHOWED.**

These demonstrations clearly showed that the treatment to which the plate had been subjected resulted in doing all that was claimed for it, namely, tempering half of the thickness of the plate the hardest and best quality of steel and increasing its carbon, while the other half remained of low carbon and in its original condition of softness and elasticity. The borings made also showed that the tempering was uniform, the line between the hardened and soft parts being clearly defined by the action of the drill. The chemical tests to determine the amount of slag in the treated material and that for the tensile strength are yet to be made. As to the latter, the inventors have no concern after the action of the cutting tool upon it to-day. The pieces cut out before the plate was put in the bath showed a tensile strength of 74,000 pounds to the square inch. The pieces now being cut out, if they ever are cut out, are certain to develop a tensile strength of 130,000 pounds to the square inch.

Navy officers at the yard are watching with the keenest interest the result of these trials. Their eyes were opened by what took place to-day, and they are already making elaborate predictions for the future of this process for the manufacture of heavy armor plate.

**THE CHANGE GRADUATED.**

But the most interesting feature claimed for the invention is that the mass of metal treated may be made impenetrably hard throughout or given a hard surface and soft center, and that the hardness may be infused on a sliding scale from the surface inward to any desired depth. A ductile and workable steel with a hard surface is the greatest need of the modern workshop. The uses to which such a metal may be put are innumerable. Next to taking the place of chrome steel for drill-proof construction, its most striking serviceability would be found in the manufacture of arsenal supplies, such as armor plate, projectiles and guns.

'A piece of steel twelve inches long by six square was hardened on a sliding scale from one surface inward,' said Prof. Moeller. 'With a powerful drilling machine it was tested at Capt. Folger's office at the ordnance-yard in Washington. Beginning at the back or soft surface the first inch was drilled in one minute and ten seconds, the second inch in sixteen minutes and twenty-three seconds, and the next one-half inch in twenty-one minutes and fifteen seconds. At this point the drill broke and would not go further. There were still three and a-half inches in the path of the drill. After numerous experiments we have learned how to graduate the extent and degree of the hardening to a nicety. The bulk of the mass treated does not affect the result. We can treat the plate for a man-of-war or the casting for a mammoth cannon as well as a blade for a pen-knife.'

**IT WILL WELD.**

Another claim made for the new metal

**The BOOMER & BOSCHERT KNUCKLE JOINT PRESS**FOR BALING  
Cloth, Paper, Yarn, &c.  
Or for any other purpose requiring great pressure.  
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Tests, Measurements and Estimates of all kinds. Sole agent of the Phoenix Incandescent Lamp Co. Lamps for any System and Candle Power.

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Steamers leave daily (except Sunday) Union Dock 6.30 P. M., Canton Wharf 7 P. M.; arrives Old Point Comfort 7 A. M., at Norfolk at 8 A. M., Portsmouth 8.15 A. M. At OLD POINT COMFORT connect with CHESAPEAKE &amp; OHIO RAILROAD for Richmond, Charlottesville, Greenbrier, White Sulphur Springs, Louisville, Cincinnati and all points West. At NORFOLK with NORFOLK &amp; WESTERN RAILROAD for Petersburg, Richmond, Lynchburg, Roanoke, Bristol, Knoxville, Chattanooga, Memphis and the South; also with the NORFOLK SOUTHERN RAILROAD for Elizabeth City, Edenton and Eastern North Carolina. At PORTSMOUTH, VA., with SEABOARD &amp; ROANOKE RAILROAD for Weldon, Raleigh, Southern Pines, Charlotte, Fayetteville, Newberne, Wilmington, Charleston, Columbia, Augusta, Savannah, Jacksonville and all PRINCIPAL SOUTHERN CITIES.

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E. BROWN, G. T. A. KEVINON JONES, Agent.

is that it will weld perfectly either with iron or itself. A sample of interspersed iron and steel bars in possession of Prof. Moeller fails to show on a polished fracture any lines of union between the two metals. In this case the steel had been welded to the iron while both were in a solid state.

'I regard this as one of the best properties of our steel,' said Prof. Moeller. 'It will make it invaluable in the manufacture of safes and other smaller forms of construction in which cost must be lessened as much as possible. Until now the steel used for this purpose has had to be poured in a molten condition between the bars of iron, making manufacture a costly one.'

At the experimental plant in Louisville, where the samples tested have been turned out, Thomas Meikle, of the Meikle Plow Co., who has prepared the metal, has principally used common Bessemer steel. The grade of the steel before treatment appears to have no definite or at least invariable influence on the result. But it is probably true that after a certain limit the better the grade of steel used the finer will it issue from the bath.

'While in Louisville I saw an old steel rail which had lain for years in a railroad yard, plunged for six feet into our bath. On being withdrawn the flanges were welded to the sides of the rail and a continuous solid bar formed. From a piece of this bar I saw an excellent razor made by Tafel, an instrument maker on Third street, and the head barber at the Galt House is now using another with satisfaction. The remaining portion was converted into various edged tools. The rail before treatment might have been bought for a cent a pound at the outside. I should not care to place an estimate on its immensely enhanced value afterward.'

#### WERE REMARKABLE RESULTS.

Additional experiments made since show even more remarkable results. Plates have been made according to government specifications which resist all efforts to drill or slot same. The next experiment will be on shells and conical projectiles, which, the inventors believe, will, after treatment, penetrate any armor now used without shattering the projectile. The plates, shells and balls will then be taken to Annapolis for target tests, which will complete the experiments. The government officials are deeply interested in the results already shown, and have determined to test this steel for all uses in naval architecture, including heavy guns, shaftings, engines, boats, boilers, nuts, ribs, keels, rudder posts, and all other parts of a ship.

The scientists who have examined the Tilford steel say that it is evidently an Allotropic form of the metal. Under powerful glasses it shows a new arrangement of the aggregation of molecules which are of a chain-like appearance, and which accounts for the wonderful hardness, toughness, and tensile strength, all of which are combined in this new metal. The credit of this important discovery is principally due to Mr. Robert J. Tilford, of this place, who accidentally fell upon the principal ingredients used, and who has since brought to its aid time, patience and enthusiasm which have never flagged.

None of the stock of the company is on the market, and negotiations are now in progress with some of the largest steel companies for the use of the new process in their respective lines of manufacture. A steel plant will probably be erected in this city for its manufacture."

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Price \$4.00 a year or six months for \$2.00.

#### PROPOSALS.

**SEALED PROPOSALS** will be received at the office of the Superintendent of the Postoffice, Courthouse, &c., building at Baltimore Md., until 2 o'clock P. M., on the 30th day of November, 1889, for all the labor and materials required to put in place complete wood-front drawers in postoffice screen, three new elevator doors in sub-basement, change the delivery windows and put in place the metal-front newspaper boxes in the above-named building, in accordance with drawings and specification, copies of which may be had on application at this office. Each bid must be accompanied by a certified check for \$100. JACKSON HOLLAND, Superintendent. November 14th, 1889.

**SEALED PROPOSALS** will be received at the office of the Supervising Architect, Treasury Department, Washington, D. C., until 2 o'clock P. M., on the 5th day of December, 1889, for the erection and completion of two roofs at mailing platforms for the U. S. Custom House and Sub-Treasury building at Chicago, Ill., in accordance with the drawing and specification, copies of which may be had on application at this office or the office of the Superintendent of Repairs at the building. Each bid must be accompanied by a certified check for \$100. JAS. H. WINDRIM, Supervising Architect. November 11th, 1889.

**SEALED PROPOSALS** will be received at the office of the Supervising Architect, Treasury Department, Washington, D. C., until 2 o'clock P. M., on the 10th day of December, 1889, for the iron beams, girders, wood joists, &c., for 1st floor of the United States Custom House, Post-office and Courthouse at El Paso, Texas, in accordance with the drawings and specification, copies of which may be had on application at this office or the office of the Superintendent. Each bid must be accompanied by a certified check for \$100. JAS. H. WINDRIM, Supervising Architect. November 8th, 1889.

**SEALED PROPOSALS** will be received at the office of the Supervising Architect, Treasury Department, Washington, D. C., until 2 o'clock P. M., on the 5th day of December, 1889, for all the labor and materials required to complete the Iron work of the Tower and Dome of the U. S. Courthouse and Postoffice building at Denver, Col., in accordance with the drawings and specification, copies of which may be had on application at this office or the office of the Superintendent. Each bid must be accompanied by a certified check for \$200. JAS. H. WINDRIM, Supervising Architect. November 7th, 1889.

#### WANTS.

**WANTED.**—Capital to develop Florida phosphates. Drawer "N," Tallahassee, Fla.

**WANTED.**—A situation as purchasing agent for a manufacturing house by a man 24 years old, with ten years' experience as clerk with one of the largest hardware houses in the country. Address "H," care of Manufacturers' Record.

**WANTED.**—Situation as Superintendent of Cotton Mill; best of references from present employers, with whom have been with as such for nearly 20 years, and others to whom I am well known. Address HUGH BONE, Ellicott City, Harford county, Md.

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I want party with \$20,000 cash to join me in purchasing and developing New Town in mineral belt of Georgia. I regard it the finest opening for profitable investment in the South. Only responsible people need apply.

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Six Wheel Saddle Tank Shifting Engine, just out of shops, having received general repairs, cylinders 15x18 in.; 6-44-inch drivers, equipped weight 35 tons. For photograph and full particulars, address

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A 48-inch Turbine Water Wheel, with casing; manufactured by James A. Davis, Macon, Ga.; develops 21 horse-power under six-foot head; using 1.184 cubic feet of water per minute, and making 71 revolutions; develops under a ten-foot head 45½ horse-power, using 1,500 cubic feet of water per minute, and making 92 revolutions. Will sell for \$200. The wheel is new; never been used. Price at factory \$420. Address

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located in Terrell, 32 miles east of Dallas, on the Texas & Pacific Railroad, consisting of one two-story brick, tin-roof building, 150x60 feet, and the machinery necessary for a 2,200-spindle mill, with 36 looms, all in position. Will be sold to the highest bidder on the 22d day of January, 1890. Address

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In Virginia, a tract of 750 acres, partly timbered, balance suited for agriculture and grazing, being well watered; containing also practically inexhaustible quarries of limestone and marble. The marble is blue, gray and pink, suitable for building or for soda fountains, counters, tessellated floors, buildings, &c. Easily quarried; water-power on spot. \*Lime is of established reputation and best quality sold for years, commanding ready sale for whole output in carload lots at large profits per barrel. Situated within two-thirds of a mile of two railroads. Beds of Yellow Ochre for sale also. For full particulars apply to

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The most desirable locations in the South for manufacturing wagons, stoves, agricultural implements, furniture, or for foundries, machine shops, rolling mills, muck bar mills, nail works, glass works, cotton or woolen mills, and tanneries, are to be found in Virginia along the line of the Norfolk & Western Railroad from Norfolk to Bristol, and upon its branch lines. Hard wood of every variety; pig iron from the furnaces at Lynchburg (2), Roanoke (2 in operation and 1 now under construction), Pulaski (1), Ivanhoe (1), Radford (1, to be built in 1890), Salem, Graham and Max Meadows (1 at each point now under construction); bar iron from the rolling mills at Roanoke and Lynchburg; coke and semi-bituminous coal from the Pocahontas Flat Top field; superior gas coals from mines on the Clinch Valley Extension; glass sand from Tazewell county; cotton from the markets of the Southern States, and wool from all the Western and South-western States and Territories at advantageous freight rates. Favorable freight rates made upon raw materials to all factories established upon its line, as well as to points in the United States and Territories upon the manufactured articles.

Those seeking new fields for manufacturing establishments should not fail to investigate the wonderful development in iron, coal and coke industries that has been made within the past five years along the line of the Norfolk & Western Railroad, and the advantages offered by the State of Virginia in the supply of cheap raw materials; by the Norfolk & Western Railroad in the matter of freight facilities and rates upon raw materials and for reaching home, far distant and foreign markets, and by the cities and towns along its line in the way of advantageous sites at moderate cost. Many of the cities and towns exempt manufacturing establishments from taxation for a series of years.

For further information as to freight rates and sources of supply of raw materials, apply to A. Pope, General Freight Agent, Roanoke, Va., or to

CHAS. G. EDDY,

Vice-President, Roanoke, Va.



#### No. 4 Double Cylinder Planer and Matcher.

The No. 4 double cylinder planer and matcher shown in the cut is designed for general planing and matching in either hard or soft wood, and has many advantages for doing smooth and perfect work. It is adapted for doing custom work—general planing and smoothing, making flooring, ceiling, partition stuff, patent siding,

arrangement, as very often the last piece is spoiled by pulling it out of the machine.

The patent pressure bars come close up to the knives on each side of the cylinder, insuring smooth work, as they prevent all chipping out; the means of adjusting them to or from the knives is simple and very convenient to the operator, and are made to accommodate any kind of bits. The bonnet, which is heavy, has an extension which comes down on the board being

of quick changes for various sizes of wheels, which makes the machine equally valuable for constantly changing job work in filling running orders, or for larger orders on wheels of the same size.

The arrangement of the machine is very simple, the operations performed automatically and the construction strong and durable, as plainly shown by the illustration.

All wearing parts are well protected by

complished by a single turn of the set screw at the end of the mandrel.

The sand disks are arranged to admit of quick removal of the sand paper, being provided with a brass clamping rim with a fine screw thread cut on the inner side corresponding to one on the disk. The sand paper is placed and clamped in position firmly, no glue or other attachment being necessary.

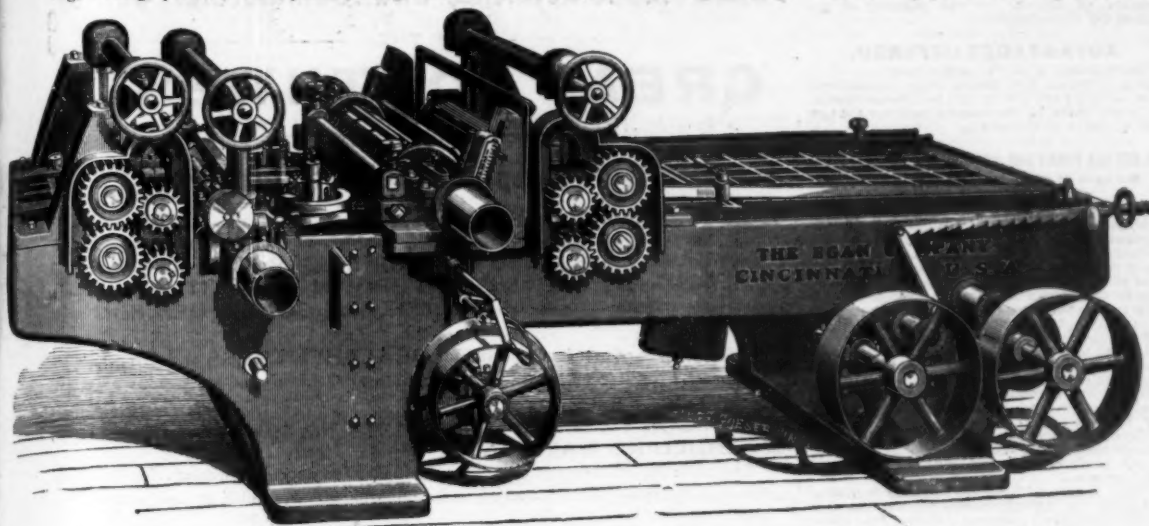
The lever moving the disks to and from each other is placed on the right-hand side of the machine, and is not shown by the illustration.

The carriage holding the wheel is a solid double casting, fastened by two pivots to the main frame, and is thus afforded an accurate and very easy motion in changing wheels or adjusting different sizes. The operator places his foot on the treadle shown and raises the adjusting handle, thereby at once withdrawing the wheel from contact with the sanding disks. In again entering the wheel between the disks, the hand lever is raised, the wheel returns automatically to the operating position, and the operation of sanding or polishing is at once resumed.

The top of the wheel carriage is provided with the necessary means for centering, fastening and rotating the wheels. It consists on the left side of a self-centering spiral chuck, which centers the hub by gripping it on the outside, regardless what the diameter may be. The automatic motion of the wheel and the resistance of the sand disks tightens the clamp quickly, and the opening of the clamp requires only a quick return of the wheel; thus it is not necessary to make a stop.

The other end of the wheel carriage is supplied with a cone center quickly operated by a lever. The rotating motion is given to the wheel by means of a series of flexible worm gearings, working under close cover in oil. Once started, the whole machine is kept in constant motion without stop for changes of wheels.

The countershaft is arranged to be placed above the machine, and is supplied with



NO. 4 DOUBLE CYLINDER PLANER AND MATCHER.

casing, molding, etc., and will stand up to hard work day in and day out without breaking down or causing the operator trouble. All the parts are easily got at and the adjustments perfect. It does a large range of work, planing 24 inches wide both sides and up to 6 inches thick, and will match or edge up stuff 14 inches wide.

The frame is very substantial, the sides being cast with internal braces, making the strongest framing that can be produced.

Both upper and lower cylinders are of steel, slotted on all four sides, so that all kinds of knives used in general planing mill work, such as beading, patent siding and molding bits, can be placed on them in any position that may be desired. Both cylinders are double belted and run in long self-oiling bearings. The lower cylinder is placed inside the last pair of feed rolls; this will be found a great advantage, as the work is fed entirely through the machine, dispersing with pulling out the last piece. The saddle or bearing for the top cutter head is fitted to very heavy planed housings and is adjusted from below the bed plate, giving free access to the cylinder in order to reset or sharpen the knives.

The side heads are of gun-metal, and run on heavy steel spindles which are bab-bitted on strong yoke frames. They can be adjusted from the working side of the machine and so placed as to feed the flooring over any part of the table, insuring an equal wear on the bed. The side heads are fitted with a patent drop matcher attachment, by means of which they can be instantly dropped below the surface of the bed by a lever from the working end of the machine in order to surface the full width of 24 inches. A patent matcher clip, for breaking the chips, is attached to the heads and works on the same circle of the cutting edge, preventing all tearing out of chips or broken edges.

The feed is very powerful and consists of four 6-inch feed rolls strongly geared; the top rolls are driven with an improved expansion gearing and fitted with patent swiveling boxes which allows the rolls to lift at either end without cramping or bending the raising screws; these swiveling boxes are connected to slides working on planed ways of the housings, and each roll is raised and lowered by a parallel shaft and hand wheel to operate the screws. The last pair of rolls feed the stock clear out of the machine; this will be found an advantageous

planed, holding it very solid as it is fed to the cutter head.

The beader is entirely independent, being connected to the pressure foot housing which holds down the stock to the lower cylinder; the beading heads have both a vertical and horizontal adjustment, and the housing being hinged, the beader can be instantly lifted out of the way.

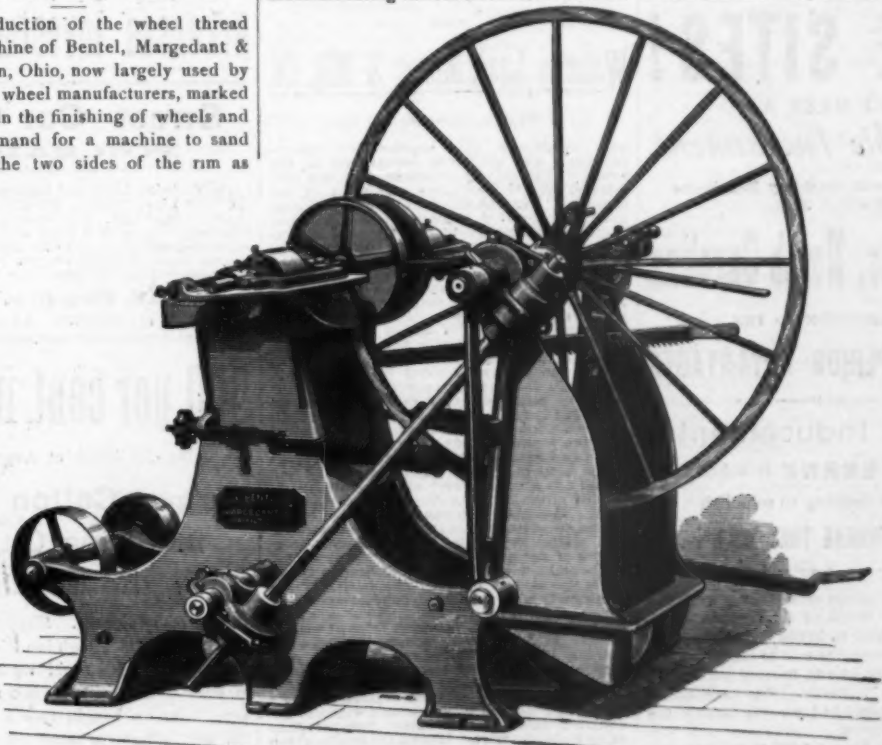
The Egan Co., 228 to 248 W. Front street, Cincinnati, O., are the manufacturers.

#### Wheel Polishing Machine.

The introduction of the wheel thread sanding machine of Bentel, Margedant & Co., Hamilton, Ohio, now largely used by the principal wheel manufacturers, marked a revolution in the finishing of wheels and caused a demand for a machine to sand and polish the two sides of the rim as

dust-proof devices, and may be run many years without requiring any renewal.

The machine consists of a heavy stand, well spread at the base and supported on six legs. The top of this stand carries the two heavy adjustable housings, in which the mandrels of the two sanding disks rest. These housings are adjustable at various angles to correspond to the bevel of the rims or felloes, an index scale showing the bevel per foot. They are also adjustable to and from each other by means of a compound lever and handle for admitting and accommodating various thicknesses of rims.



WHEEL-POLISHING MACHINE.

quickly and perfectly as that machine operated on the tread.

After a careful study of the requirements of such a tool the same manufacturers present the machine shown by our illustration herewith, which will sand and polish the two sides of the rim at the same time, both uniformly and rapidly.

It is so arranged as to take in and admit

Each mandrel is arranged with a spiral spring acting toward the sides of the wheel, thus securing uniformity of angle for bevels and pressure of disks against the sides of the wheels. If desired, the left-hand disk may be set stationary as to its longitudinal movements, so that the left-hand disk may form a standard from which to sand. This fixing or adjusting is ac-

tight and loose pulleys of our patent differential pattern, the loose pulley being of smaller diameter than the tight. The latter is 10 inches in diameter by 5 1/4 inches face, and should make 600 revolutions per minute.

For price and further particulars address the manufacturers, Messrs. Bentel, Margedant & Co., Hamilton, Ohio.

# CAMDEN, WILMINGTON,

The Capital of Kershaw County,  
South Carolina.

This ancient and historic town is noted for its dry atmosphere, pure water, beautiful scenery, healthful climate and refined society.

It is the center of a rich agricultural country, which contains great natural resources. Hardwoods of many species are abundant, and great forests of long leaf pine, which impregnate the air with terebenthine odors. Several good hotels entertain travelers, and two are carefully conducted for the especial comfort of northern health and pleasure seekers.

Manufacturing of all kinds can be done here advantageously. Two railroads, the South Carolina and the Charleston, Cincinnati & Chicago, furnish transportation to all parts of the country. Two telegraph lines, the Postal and the Western Union, have offices here.

Churches and schools are numerous and well sustained.

A cotton mill company has been organized, and the first installment of twenty per cent. has been called in.

Land is cheap. The climate is salubrious, and subject to no extremes during the year.

Camden invites capitalists, manufacturers, pleasure and health seekers and sportsmen to visit the city and examine the advantages it offers to all.

All inquiries will be promptly answered by the undersigned, official representative of the intendand and warders.

**DR. JOHN W. CORBETT**

Or the President of the Board of Trade.

**\$1,000 Bonus.**

## FREE SITES!

TO MAKE A

*Profitable Investment,*

Correspond with Secretary New Berne Board of Trade.

## New Berne, North Carolina

IN RELATION TO THE

**MANY SUPERIOR ADVANTAGES**

—AND—

**Ample Inducements**

that **NEW BERNE** is holding out to those desiring to establish

**FACTORIES WHERE THEY WILL PAY.**

We are in the center of a most magnificent timber region. Wood of all kinds in abundance, and the best facilities for transporting to the mill and from the mill to market.

We are very anxious to develop our section by establishing factories. We have everything except capital, and we will make it pay capital to come to us.

We know that people flock to the booming sections, but still we do not want a boom, but a good, substantial and steady growth, such as we have had for the past ten years. The point is now reached with us that we can go no farther without capital to assist, and it will pay capital to investigate what we have to offer.

New Berne is now offering every inducement possible to aid manufacturing investors who will establish enterprises adapted to the natural advantages of this section. Address

**Secretary New Berne Board of Trade**

This pleasant and growing city invites enterprising citizens and capitalists from all parts of the civilized world.

**\$150,000** Fr. edam fr. m Municipal Taxation **\$150,000**

**Splendid Opening for Men of Push and Energy.**

The City of Wilmington has made an appropriation of \$150,000 for the purpose of encouraging manufacturing.

### ADVANTAGES OFFERED.

Climate favors work the entire year. Labor abundant and cheap, living economical. Freight rates are low by rail to interior points. Shipping rates by steamships and vessels low to all parts of the world.

**NO BETTER POINT FOR PROFITABLE INVESTMENT.** We have the raw material in abundance.

### Facts About Wilmington.

A seaport city of 25,000 population. An important naval store, cotton and lumber market. Extensive shipping interests. A secure, fresh water harbor. Depth of water on bar 18 feet at mean high water; and government supervision, being continually deepened. Excellent terminal facilities. Four railroads in operation, two in process of construction. Surrounded by attractive summer resorts. Adjacent territory especially adapted to trucking, peach growing, vineyards and rice culture. Drainage excellent.

Health and climate unsurpassed. An 11-the-year-round resort. "THE LONG BRANCH OF THE SOUTH."

Excellent schools and churches of all denominations. A cordial welcome extended to all good citizens and men of push and intelligence.

Three banks, with ample banking facilities. Among the manufacturing enterprises now in operation are numbered: Cotton, Pine Fibre, Fertilizer, Wood Working and Ice Factories; Rice, Flour and Planing Mills; Foundry, Machine Shops, Gas, Electric Light Plants, Cotton Compresses, Crooked Lumber, Car and Water Works.

We invite all to come and see, and on the spot to judge for themselves. Wilmington offers excellent hotel accommodations, and a committee of its Chamber of Industry will extend to strangers seeking home and investment cordial greeting and attention.

Persons who may desire fuller information can obtain it by addressing

**The Chamber of Industry, Wilmington, N. C.**

**GEO. T. McWHORTER**, President, Chickasaw, Ala.

**JAS. M. ALLEN**, Secretary, Waterloo, Ala.

**Capital Stock \$200,000.**

THE

**Waterloo Land, Mining & Mfg. Co.**

of Waterloo, Lauderdale Co., Ala.

will encourage the location of manufacturing and industrial enterprises in the town of Waterloo by donations of town lots, mineral and timber lands, and stock of the company. Persons who contemplate engaging in enterprises of this character in North Alabama are requested to consider the advantages, present and prospective, of this point before deciding to locate elsewhere. Waterloo is situated on the north bank of the Tennessee river, below Colbert Shores and consequently at the head of summer navigation on said river. During low-water stage light draft steamers run from Waterloo to Florence, Sheffield and other points above the shoals, freight being transferred at Waterloo. At this season goods may be billed from St. Louis, Cincinnati, Louisville, Evansville and all Western river cities to Waterloo cheaper than to any other town in Alabama Chickasaw excepted. Waterloo is in the heart of the mineral belt, the immense beds of iron ore of Wayne and Lauderdale Counties lying in close proximity (5 to 10 miles). Limestone, silica and kaolin are abundant and close. The largest area of virgin forest in North Alabama lies in sight. The Land Company owns large bodies of this, together with many valuable town lots. The water supply is abundant and pure. Scores of springs bubble up within the town limits and the limpid waters of Second Creek wash the eastern border. The health of the community is unexcelled and the cost of living cheap. This is the largest shipping point for tan bark in the state. Present price of bark at landing \$4.50 per cord. Special facilities for tanning leather. The Land Company will donate a large body of fine timber and mineral land in a block to secure the construction of a railroad, north or east from Waterloo, such a road being needed in connection with the unequalled facilities of water transportation enjoyed by the town. Liberal aid will be given to persons who will locate industries here that give employment to labor and add value to raw material.

No matter what you intend to manufacture, consult the Waterloo Land, Mining & Manufacturing Co. and learn what facilities for the prosecution of your business the place enjoys. An what inducements will be offered you to come. All questions truthfully and fairly answered.

For further information consult the President, Secretary or Hon. Hiram Richardson, Vice-President, Waterloo, Ala.

Why not subscribe for the MANUFACTURERS' RECORD? Price \$4 per year or six months for \$2.

# DENISON, TEXAS.

THE

## Future Manufacturing and Commercial Center OF THE GREAT SOUTHWEST.

**Denison Supplies the Coal for Texas.**

She has at her gates the only **COKING COAL** of any value in the Mississippi Valley. To the Southwest lies the best **MAGNETIC IRON ORE** in the world, while to the north and southeast are fields of **BROWN HEMATITE ORE** of the finest grade. These ores must meet the **COKE** and **COAL** at **DENISON** and there be worked.

**DENISON** cannot be surpassed for **HEALTHFULNESS** and **BEAUTY** of location. Six divisions of railways terminate at Denison and are operated by her citizens.

**DENISON** has an abundant supply of pure, soft water and plenty of good, cheap **BUILDING MATERIAL**.

The attention of investors and those seeking advantageous locations for business or for manufacturing plants is invited to the opportunities presented at Denison.

**MUNSON & BRO. HAVE SUPERIOR FACILITIES FOR THE SAFE AND PROFITABLE INVESTMENT AND HANDLING OF CAPITAL.**

For information about **DENISON** and for bargains in **BUSINESS** and **RESIDENCE PROPERTY**, **ACRE PROPERTY** and **FARMS NEAR THE CITY**, write or call upon

## MUNSON & BRO.

301 WOODWARD STREET,

DENISON, TEXAS.

### To Manufacturers.

### Arkansas Investments.

### Street Car Line FOR SALE.

The Gadsden Land and Improvement Co. will sell their Line. Has 2 3/4 miles Standard Gauge, 35 pound Steel Rail. Has Baldwin Motor and 2 Coaches. Operates 5 miles of Leased Road to Attalla. Road is earning over and above all expenses, lease included, six per cent. on eighty thousand dollars. Address

**R. B. KYLE, Pres. G. L. and I. Co. GADSDEN, ALA.**

### 500 per cent. in Land

Adjoining city limits at Augusta, Georgia.

### Largest Cotton Manufacturing City in the South.

2,600 acres lying west. High rolling land—the only available high land for city extension. Only needs rapid transit to become at once available, at \$1,000 to \$2,000 per acre. Can be bought now at \$50 to \$100 per acre in large or small tracts.

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Investors and builders of dummy railroads invited to investigate this field for development of profitable enterprise.

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**FREE SITES** and Coal 25 cents per ton to manufacturers desiring location in the Southwest. Cotton, Timber, Limestone, Iron, Coal Lands and Town Lots for Sale. Investments made for non-residents.

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Sebastian County, of two years' growth. Population over 2,000. Lies in the heart of the mineral district. Correspondence solicited.

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12-ton ice plant (Pictet) all complete and in first-class order, can be had at one-third cost, and been in use only one year. For particulars inquire of

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Makes the Litigation of Land Titles a specialty. Will also Lend Money for non-residents upon the best real estate security.

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Town Lots, Mineral Timber and Farm Lands.

We have many large and small tracts.

Iron Ore, Coal, Glass, Sand, Marble, Building Stone, and Several Mineral Springs, of Wonderful Curative Properties.

The best of farming and grazing lands. No malaria. No mosquitoes. Salubrious climate. Gorgeous scenery. Water power unlimited. Factory sites donated. Property at first hands, so get in on "rock bottom." Write to, or call on

**BARCLAY & CROCKETT,**

The leading Real Estate Agents of Southwestern Virginia, RADFORD, VIRGINIA.



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Fulton Iron & En. Wks.
- Hose.**  
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Stillman, (Cleveland.)  
Niagara, (Buffalo.)
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- Hydraulic Machinery.**  
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Rife's Hydraulic Engine Mfg. Co.
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Consolidated Ice Mch. Co.  
Louisville Machine & Elevator Co.  
Frick Co.
- Arctic Ice Mch. Mfg. Co.**  
S. Florida Foundry & Machine Co.  
Ring Ref. & Ice Mch. Co.
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B. .... 6 Rogers, Saml. C., & Co. .... 8 Rome Foundry & Machine Wks. .... 44 Ross, Josiah. .... 59 Rouse, R. R. .... 59 Rowley & Hermance. .... 6 Rumsey & Co. .... 60 Russell & Co. .... 4 Russel Wheel & Foundry Co. .... 4 Ryan Co., Jno. .... 55 Ryan & McDonald. .... 54 Ryder & Dearth. .... 54  <b>T</b> Santley, W. R., & Co. .... 47 Saunders, D., Sons. .... 59 Saunders, Jno. F. .... 59 Sawyer-Man Electric Co. .... 53 Saxton, J. C. .... 51 Scovel & Irwin Construction Co. .... 50 Sebastian, May & Co. .... 43 Sedgwick Bros. .... 51 Seyfert, L. F. .... 51 Sheffield, Ala. .... 44 Shields & Brown Co. .... 44 Shimer, Samuel, J., & Co. .... 50 Shryock, Thos. J., & Co. .... 44 Shultz Belting Co. .... 46 Sigourney Tool Co. .... 44 Silver & Deming Mfg. Co. .... 52 Simpkin & Hillier. .... 56 Skinner Engine Co. .... 4 Smith, H. B., Machine Co. .... 5 Smith, J. A. V. .... 1 Smith, Jas., & Co. .... 47 Smith, R. C. .... 47 Smith, S. Morgan. .... 45 Smith & Vaile Co. .... 58 So. 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is the best and cheapest roadway for cities and towns now in use. It is more durable than granite or asphalt and costs much less. Descriptive pamphlet sent on application. Correspondence solicited. Address

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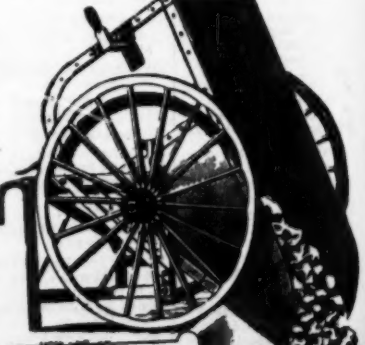
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Making Ice—Refrigerating, Breweries, Packing Houses, Cold Storage Houses, Oil Refineries, Creameries, Hotels, &c.

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All machines built by us are made to gauge and templet. Highest economy secured. Best results obtained. Machines in steady operation for more than ten years.

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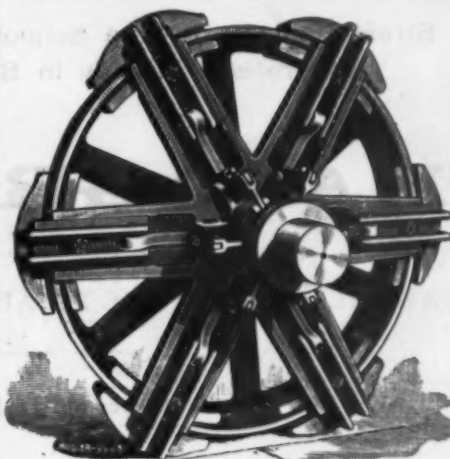
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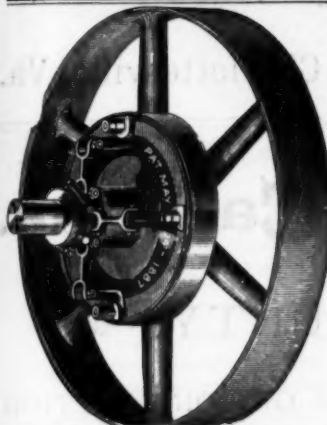


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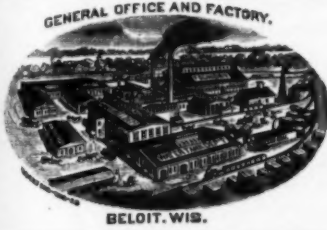
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**Friction Clutches, &  
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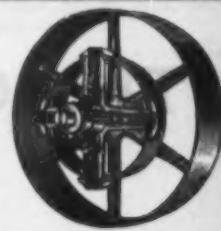
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## ECLIPSE FRICTION CLUTCH PULLEYS AND CUT-OFF COUPLINGS.

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Eclipse Wind Engine Co., Beloit, Wis.  
DEAR SIR: The Clutch Pulley (diam. 106 in., face 21 in) works satisfactorily in every particular, and is a great convenience. We have two, and can stop either the main saws or the gang edger, or both whenever desired, without stopping the engines.  
Yours respectfully,  
Yesler Wood, Coal & Lumber Co.,  
J. D. Lowman, Secy.

**ECLIPSE WIND ENGINE CO., - Beloit, Wis.**  
Send for July, 1889 catalogue, and see where and by whom they are used.

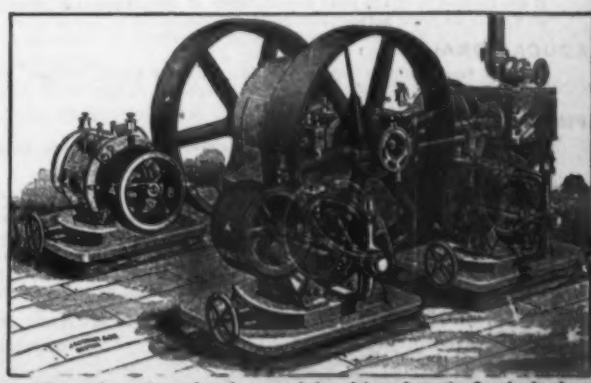


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FOR TRANSMITTING POWER WITH EITHER STEADY OR VARIABLE SPEED.



WE  
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EFFICIENCY  
THAN WITH  
ORDINARY BELTS.



By the use of our Speed Cones the speed of any machine can be easily changed automatically or by hand, while the machine is running and a very fine adjustment can be obtained.

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The cut above shows four dynamos being driven from the fly wheels of one engine. This effects a great saving in room and in belting. Each dynamo may be started or stopped independently of the rest without slowing the engine, by simply turning a hand wheel.

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## OXFORD, North Carolina.

✱ THE CAPITAL OF GRANVILLE COUNTY. ✱

SITUATED ON THREE RAILROADS, TO WHICH A FOURTH IS IN PROCESS OF CONSTRUCTION.

## The Cosmopolitan Town of the South

INVITES IMMIGRATION TO HER HOSPITABLE BORDERS.

A family living in Oxford educates boys and girls at home and never flees to the mountains or coast in summer to escape malaria, thus saving thousands to the head of the family.  
Mark well its points.

### POINTS.

It was founded in 1770 by Jesse Benton, father of Hon. Thomas H. Benton, yet it is the newest town in the State, having twice doubled its population in past 10 years.

### EDUCATIONAL.

It has a large military school and two excellent female colleges, one daily and three weekly papers.

### FINANCIAL.

Its taxable property is about \$2,000,000, its population 4,000. It has opera and market house, two excellent banks with ample capital.

### INDUSTRIAL.

It sells eight million pounds of tobacco a year in five mammoth brick warehouses; has four extensive tobacco factories, forty or more leaf factories, two iron foundries, three carriage factories, sash and blind factory, electric-light plant, four hotels, a broom factory, steam flouring mill, cigar factory. The noted Kimball Tobacco Company, of Rochester, N. Y., after surveying the whole tobacco field, selected Oxford as a spot to locate its North Carolina business, and are about to erect a third mammoth building.

### RELIGIOUS.

Four churches in its midst.

### CHARITABLE.

It boasts of the Oxford Orphan Asylum, two hundred and fifty children well cared for; also lodges of Odd Fellows and Masons.

### CLIMATE.

It furnishes that equable climate that delights denizens of the North. Annually hundreds come to kill quail in its adjacent fields, or seek health from its pure hilly air and mountain water. It has no chills and fever, no malaria, no epidemics.

### ITS BACK COUNTRY AND FUTURE.

Minerals in great richness and abundance fill the soil of Granville. Copper, iron, gold and silver abound. Capitalists from New York and Pennsylvania and elsewhere are working the mines to great advantage. Its farmers make that smooth, bright, waxy tobacco that only the generous soil of Granville vouchsafes to man—tobacco that improves, like old wine, with age, and is shipped with impunity through the humidity incident to an ocean voyage; and that caused Count Bunsen to exclaim that Granville county tobacco was "the finest on earth, free of nicotine." These tobaccos are the highest priced to be found anywhere, bringing often \$1.00 per pound in the leaf. Nestled in the hills of Granville, a very Arcadia, and ideal home among people busy, yet having hearts, awaiting with open arms the coming citizen. Riots are unknown, and there are no race problems to solve.

### ACCEPTABILITY.

Oxford is only two hours from Raleigh, four hours from Richmond, Va., and five hours from Norfolk, Va.

FOR FURTHER INFORMATION ADDRESS THE SECRETARY OF THE COMMONWEALTH CLUB, OXFORD, N. C.



Ex-Mayor ABRAM S. HEWITT, of New York, says this section of Alabama "is the only place upon the North American Continent where it is possible to make iron in competition with the cheap iron of England."

## BUSINESS POINTS

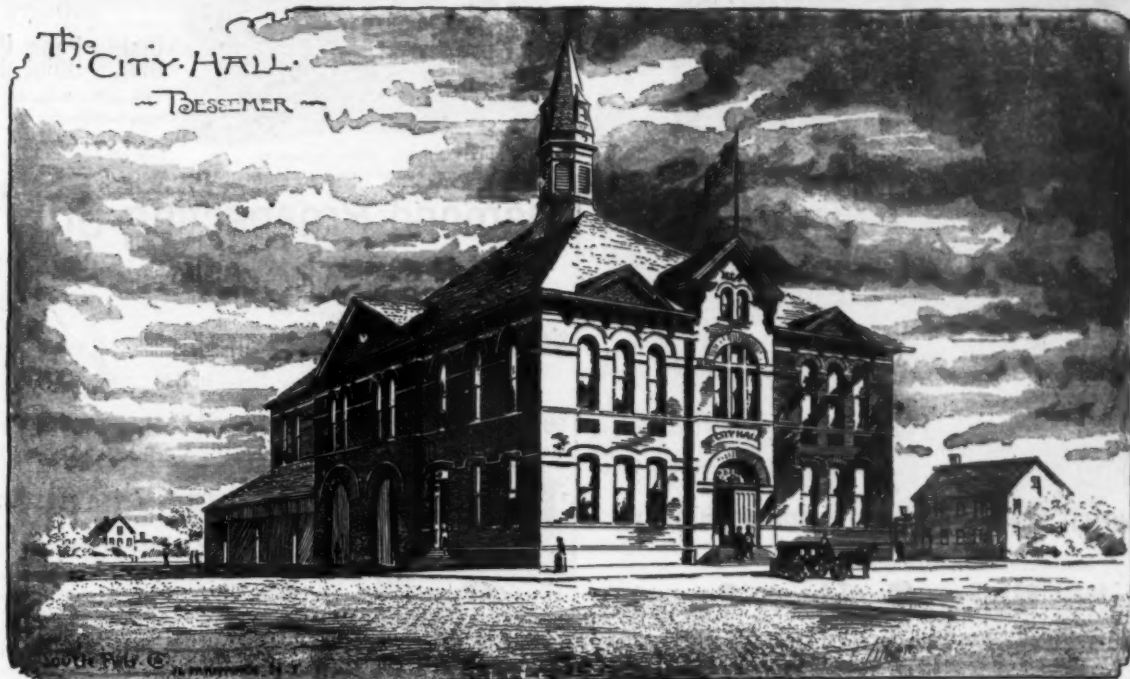
ABOUT

# BESSEMER CITY, ALA.

WORTH CONSIDERING BY BUSINESS MEN.

### COTTON MANUFACTURING.

With the Cotton growing near the mill; at the present cost of spindles in position; spacious sites costing nothing; coal delivered to mills at \$1.25 per ton; modern steam machinery with its minimum consumption of fuel, Bessemer offers marked advantages.



**100 Fruit, Truck and Dairy Farms.**  
The Land Company offers on leases for five or ten years, with very liberal terms, One Hundred Farms, 5, 10 and 15 Acres each, and will erect cottages and put up fencing; but only to parties who have, by experience, been successful in these branches of business. Don't want any inexperienced experimenters on any terms.

## Bessemer's Iron Foundations.

**First.—The DeBardeleben Coal & Iron Company**—Two furnaces in blast; two batteries of 170 coke ovens each—340. Extensive coal and iron mines, limestone rock, etc., in active operation. Furnaces situated within the city limits, occupying 160 acres of land—enough for multiplied extensions. Average output 225 tons daily.

**Second.—The Bessemer Steel & Iron Company**—Two furnaces go in blast December, 1889; two batteries of 200 coke ovens each. Extensive coal and iron mines, limestone rock, etc., in active operation. Furnaces situated within the city limits, occupying 100 acres of land—enough for multiplied extensions. Average output 225 tons daily.

**Third.—The Little Belle Iron Company**—To go in blast December, 1889. One charcoal furnace, situated within the city limits, occupying 50 acres of land, enough for multiplied extensions. Average output 60 tons daily.

**Fourth.—The Bessemer Rolling Mills**—Situated within the city limits, occupying 13 acres of land. When running full works 700 hands. One hundred tons possible daily output.

**Fifth.**—In addition to the coal and iron mines above referred to, in connection with the five furnaces, these proprietors own the **MAGNETIC ORE LAND COMPANY**. The total coal, iron and limestone lands owned by these corporations amount to over

**200,000 ACRES.**

The **EARLIEST SELECTED** and choicest lands in Alabama, all directly tributary to the City of Bessemer, representing, with furnaces, rolling mills, etc., an aggregate of \$9,000,000, not including other lines of business.

Iron Manufacturers in Bessemer will have a direct advantage of \$2.50 to \$3 per ton on the cost of Pig Iron, compared with Pennsylvania Prices.

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The Bessemer & Tuscaloosa is completed to Woodstock, a distance of thirty miles, lacking only eighteen miles of reaching Tuscaloosa.

The Bessemer & Selma has been surveyed and grading will soon commence.

The Mobile & Bessemer, an extension of the East Tennessee, Virginia & Georgia, is in process of rapid construction.

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The Birmingham, Powderly & Bessemer Street Railway, Bessemer to Birmingham, will be running by November 1st, half the line being now graded.

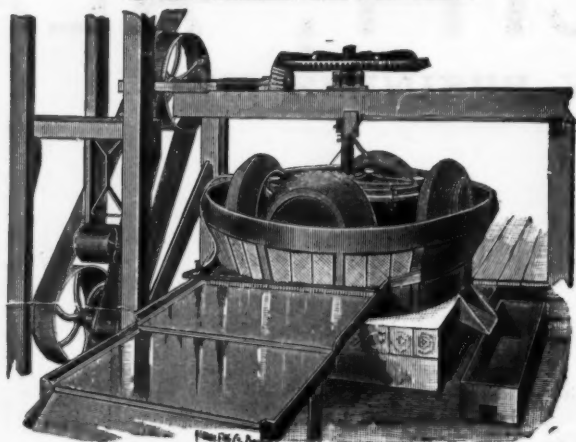
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**CORRESPONDENCE SOLICITED.** For particular information as to price of lots, manufacturing sites and inducements to establishing plants in this unrivalled locality, address

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The following testimonial from Mr. Marsden, of the firm of Farrel & Marsden, manufacturers of Stone Breakers and Ore Crushers, Ansonia, Conn., speaks volumes for the Wiswell Mill:

Wiswell Electric Mining Machinery Co.:

GENTLEMEN—After carefully inspecting your mill and seeing it in operation, I do not hesitate to say that it is one of the best, if not the best pulverizer and most complete gold-saying machine I have ever seen. Please accept congratulations for your success.

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WE FURNISH A COMPLETE MILL FOR \$2,500, DELIVERED ON BOARD CARS.

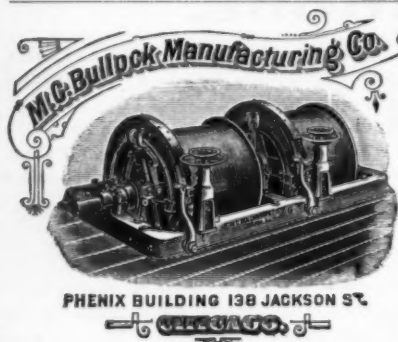
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Improved Corliss Engine, Slide Valve and Straight Line Engines,

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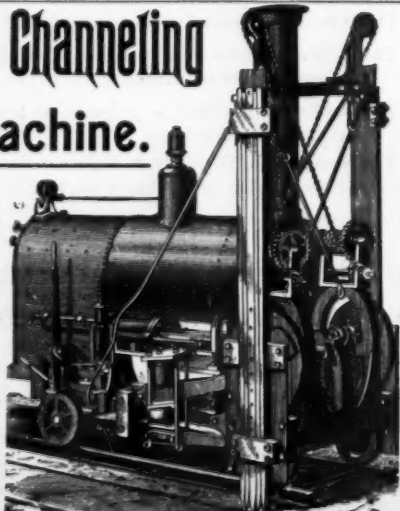
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**Quarrying Machine.**

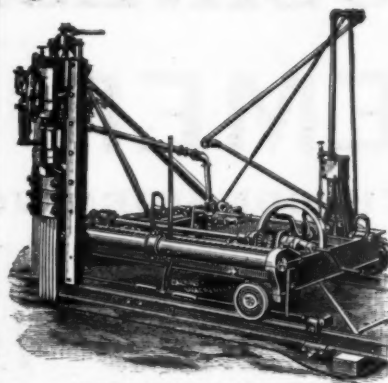
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SULLIVAN STEEL GANG CHANNELER.

repairs, and with the greatest ease and convenience of operation.

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WE HAVE RECENTLY PUT ON THE MARKET A  
DIRECT ACTING

Single Gang Steel Channeler

Adapted in design and construction to do rapid work, with high economy of steam and few



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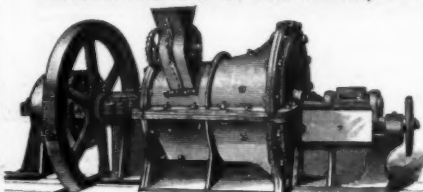
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Contractors for Prospecting with the Co e Drill. CORE DRILL—HAND-POWER.

## The Greatest Pulverizer in the World.

Pulverizes from 10 to 160 mesh fineness, and has a capacity of 1 to 3 tons per hour.



Better than buhr mills for pulverizing  
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For Bones, Phosphates, Tankage, Ores, Clay, Fish Scrap, Salt Cake, &c.  
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MANUFACTURERS OF

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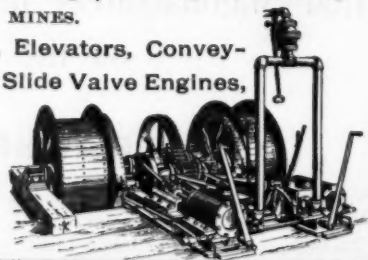
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Friction Hoists, Chain Belting, Elevators, Convey-  
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EQUIPMENTS GENERALLY.

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**BACON** Winding Engines,  
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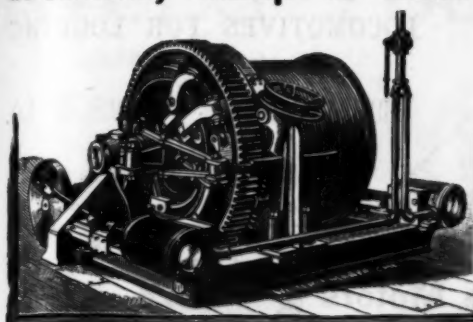
REFERENCES: Croton Magnetic Iron Mines, Brewsters N. Y.  
Croton Point Iron Co., Crown Point, N. Y.  
Belvidere Iron Co., 32 Broadway, N. Y.  
Sea Island Chemical Co., Beaufort S. C.





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Endless and Tail Rope  
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Automatic and Slide Valve  
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Sheaves, etc.

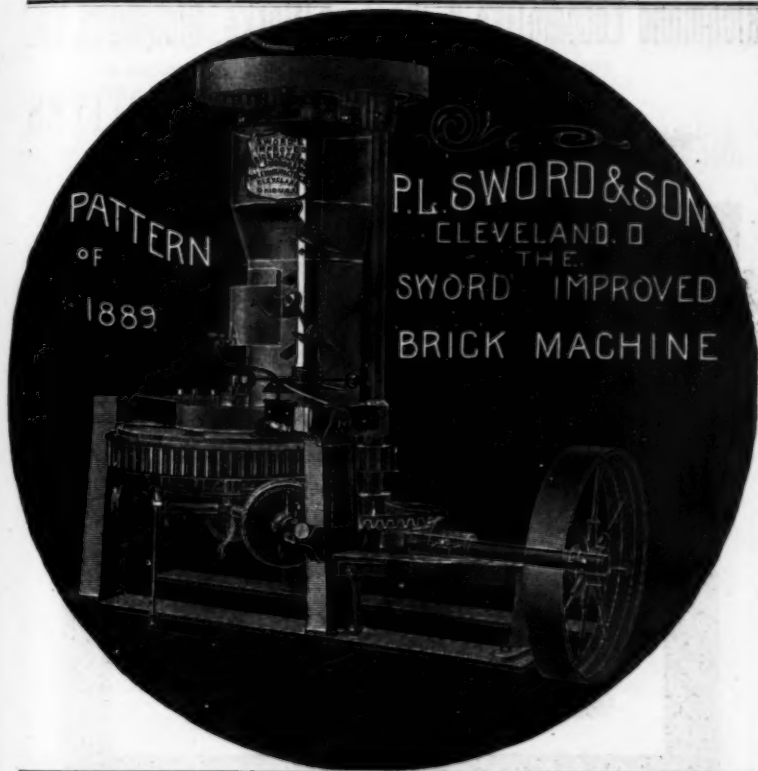
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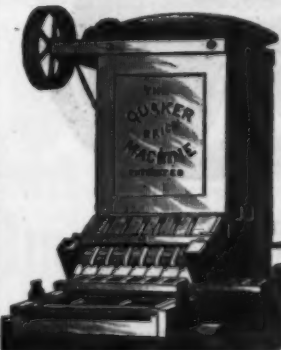
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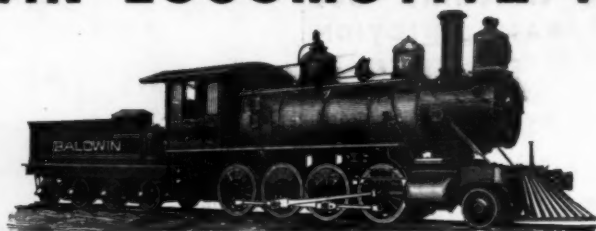
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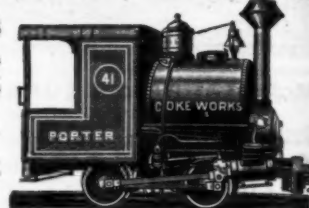
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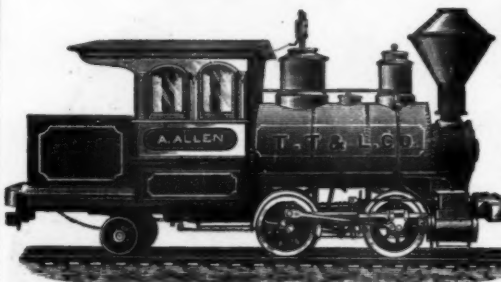
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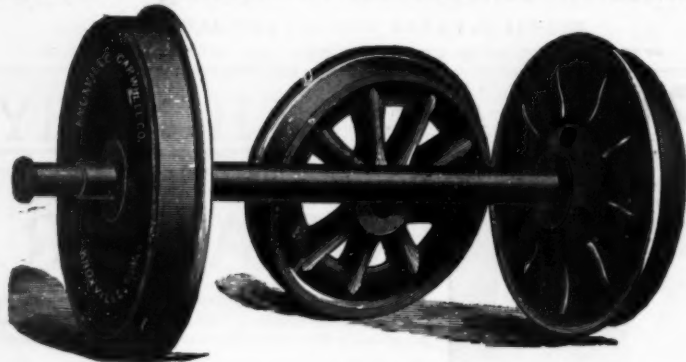
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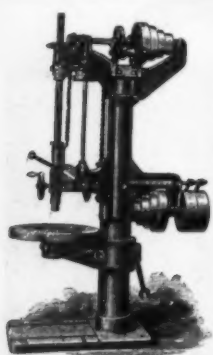
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Positive in Action.  
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Easily Attached and Adjusted.  
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These glasses are fitted with Patent Automatic Valves set within the boiler, which will INVAI-  
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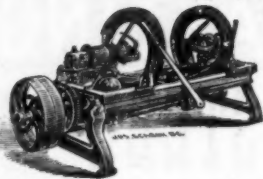
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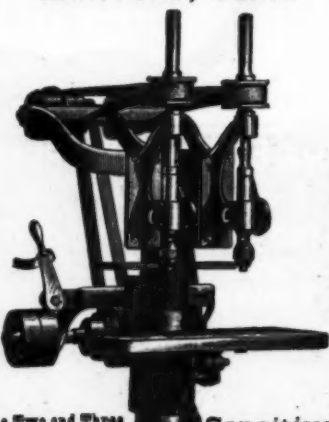
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Lathes on trial. Lathes on payment.Send for catalogue of Outfits for Amateurs or Artisans.  
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Coil, Vertical and Horizontal Straight Tube Heaters. Heaters for compound Condensing Engines, Expansion Joints, Filers and Condensers. Prices very low. Heaters constructed of Cast Iron and Steel Shells, Copper Tubes, Brass Connections. No Wrought Iron to rust out. Send for new illustrated catalogue.

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Steam Fitters and Machinists' Brass Work.**TAPER-SLEEVE PULLEY WORKS**211 W. 12TH ST.  
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Manufacturers of Taper-Sleeve Wood Belt Pulleys, Adjustable Dead Pulleys, Friction Clutch Pulleys, Friction Clutch

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**Patent-Split Pulley.****Property Owners****A Volume of Information On Tin Roofs Free of Cost.**If you have decided to place a tin roof upon your house you should, in justice to yourself, obtain the best possible information in regard to tin for roofing purposes. No property owner can afford to remain ignorant, when a whole volume of information devoted to the selection, laying and painting of a tin roof can be had for the asking. Messrs. Merchant & Co., of this city, are considered to be authority on tin roofs. They have devoted much time, labor and money in presenting, in readable shape, a mass of facts upon this subject, which are of great interest to property owners. The constant inquiry from property owners for these books evinces the fact that there is considerable quiet thinking being done just now by a large number of gentlemen, who have heretofore given the subject very little consideration. What the outcome will be, almost anyone can anticipate. A better class of roofing is sure to follow as a natural consequence. A wise property owner will send for Merchant & Co.'s new book; and, after reading it, he will certainly conclude that there was much that he did not know upon the subject of tin roofs.—*Philadelphia Real Estate Record, Sept. 11, 1899.***The Belden Machine Co.**  
NEW HAVEN, CONN.**Rome Foundry & Machine Works, ROME, GA.**

Manufacturers of the well known

**DAVIS DOUBLE TURBINE Water Wheel**Beyond all question one of the best wheels on the market, and is fully guaranteed.  
Send for Illustrated Catalogue and Price List.  
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**Portable and Stationary Engines AND BOILERS, Grist and Flouring Mill Machinery.**



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OFFICE OF PETER SNYDER,  
DEALER IN FLOUR, FEED AND LUMBER,

MANLIUS STATION, N. Y., October 28, 1889.

The Case Manufacturing Company, Columbus, Ohio:

GENTLEMEN: After running my mill over two months, I feel it my duty and in justice to you to state that I am more than pleased with the mill you built for me. It started like a clock "from the word go". My flour is discounting the fanciest brands of flour in the market. My clean-up is equal to any mill in the State. I will say that the Case Rolls and Flour Dressers cannot be beaten in the world for light running and ease of access to all their parts. I would advise any miller building a new mill or remodeling an old one to place their contract with the Case Company.

Thanking you for the prompt and efficient manner in which you furnished my machinery in so short a time, after so great a loss and damage by fire burning your works, and with the best of wishes I remain,

Yours respectfully,

PETER SNYDER.

For full particulars regarding the best FLOUR OR CORN MILL MACHINERY, address



## THE CASE MANUFACTURING CO., Columbus, Ohio.

### TRADE NOTES.

**CHANGE OF ADDRESS.**—The Standard Oil Fuel Burner Co.'s office has been moved from 137 Broadway, New York city, to their factory at Fort Plain, N. Y., to which address all correspondence should hereafter be directed.

**CONTRACT CLOSED.**—D. B. Jones, Jr., has closed a contract between the Planters' Oil, Guano & Ice Co., of Macon, Ga., and the Ring Refrigerating & Ice Machine Co., of St. Louis, for two machines, each with a capacity of 20 tons of ice per day and capable of refrigerating 70,000 cubic feet of cold-storage space daily.

**CHANGE OF FIRM.**—The Springfield Glue & Emery Wheel Co. and the Springfield Emery Wheel Manufacturing Co. give notice that the business of the former has been transferred to the latter, together with its liabilities, debts, etc. New works are now under way at Bridgeport, Conn., which will be occupied about February 1 next.

**ICE AND REFRIGERATING MACHINES.** Messrs. Simpkins & Hillier, consulting and constructing mechanical engineers, 1105 Main street, Richmond, Va., have contracted with the Transparent Ice Co., of that city, to build for them a 15-ton ice machine on the compression system, which system they propose to make a specialty.

**PALACES ON WHEELS.**—The Chesapeake & Ohio Railway Co.'s "Fast Flying Virginian," the vestibuled limited dining-car train between Washington, Cincinnati and the West, affords speedy and luxurious traveling. Time cards and other information may be had at the company's offices, New York, Philadelphia, Baltimore, Washington, Cincinnati and Louisville.

**A BUSY CONCERN.**—The Cambridge Roofing Co., Cambridge, O., have recently filled several large orders for their Crowl's patent steel roofing, among which were 270 squares for the Spiral Weld Tube Co., East Orange, N. J.; 240 squares for Zohm & Co., Greensburg, Pa.; 162 squares for the Philadelphia Quartz Co.; 233 for the Blatt Carriage Co., Mansfield, O., and 111 for the Clark's Mills Manufacturing Co., Clark's Mills, N. Y. These, together with smaller orders, have kept the company running to their full capacity.

**STEAM PUMPS, ETC.**—The Hall Steam Pump Co., Grant avenue, Allegheny, Pa. (postoffice address, Pittsburgh, Pa.), announce that on and after the 15th inst. they will occupy their new and commodious works at Pittsburgh. The works comprise a large machine shop, iron and brass foundries and a pattern shop, all thoroughly equipped. They are now prepared to take orders for large work as well as small, and can guarantee prompt execution as well as good workmanship. Their descriptive catalogue of pumps, with price-lists, etc., will be mailed upon application.

**PATENT METALLIC SKYLIGHTS.**—Thousands of feet already tested by practical use prove the superiority of Vaile & Young's patent metallic skylights. They do not call for putty and are adapted for all forms and styles of construction. They are particularly suited to depots, mills, factories, etc., where large and continuous lights are required. See advertisement in this issue. Illustrated catalogue mailed on application. Address 309-311 North street, Baltimore, Md.

**MARBLE QUARRIES AND OCHRE BEDS FOR SALE.**—Attention is invited to the advertisement in this issue of valuable marble quarries and ochre beds at Buchanan, Botetourt county, Virginia, which are offered for sale by Mr. Chas. L. Wilson. The property comprises a tract of 750 acres, partly timbered, well watered and suited for farming purposes. The chief value of the tract, however, lies in extensive beds of limestone marble and ochre. The marble is blue, gray and pink, easily worked, water-power being available on the spot. The lime also is of fine quality, and the property is less than a mile distant from two lines of railway. It would appear that the tract offers a good opening for the investor and would merit investigation.

**AN exceptionally substantial four-story building** has just been completed and occupied on the north side of Carpenter street, between Twelfth and Thirteenth streets, Philadelphia, Pa., by the Main Belting Co., manufacturers of what is known as "Leviathan belting." The building has a frontage of 128 feet and a depth of 52 feet. The first story is partially under ground, where, upon a solid cement floor, the heavy machinery is located. The double floors, instead of resting on joists, are supported on heavy girders placed about nine feet apart, these resting on solid yellow pine columns. A large elevator, convenient to a driveway where goods can be unloaded and loaded directly on and from the wagons, extends from the lower to the upper floor. A new 60 horse-power engine and 75 horse-power boiler are in a separate building, and these operate all the machinery and also heat the building. The manufacture of "Leviathan belting" was commenced by this firm about eight years ago at Ninth and Reed streets, where it remained until about a year ago, when the business outgrew these quarters, and the present location was selected and the new building erected. The present plant possesses more than double the capacity of the old, and is provided with all the latest appliances for rapidly and successfully handling the business.

**THE Thomson-Houston Electric Co.** has recently closed important railway contracts with the Mt. Adams & Eden Park Inclined Railway Co., Cincinnati, O.; Chattanooga Electric Railway Co., Chattanooga, Tenn.; Denver Tramway Co., Denver, Col.; Knoxville Street Railroad Co., Knoxville Tenn.; Woodstock & Waverly Electric Railway

Co., Portland, Oregon; San Jose & Santa Clara Railway Co., San Jose, Cal. Five miles of track will be equipped in Chattanooga, and two cars will be used. At Denver 16 cars will be employed at first and an overhead line of 5 miles construction. The road at Knoxville is two miles in length and will operate five cars. The road at San Jose is nine miles long and will have as an original equipment six cars. This is the first Thomson-Houston electric railway in California, and no pains will be spared by the managers to make it a model one in every respect. Work on the equipment of the West End Co.'s lines in Boston by the Thomson-Houston Electric Co. is rapidly progressing. The Franklin Park line was regularly opened to the public on the 14th, and other lines will soon be ready. The need for increased accommodations and more rapid transit has never been greater in Boston than at the present time, and the advent of the new electric lines will be of the greatest advantage to the traveling public.

**"THE COLLIAU"**  
NEW AND IMPROVED  
**HOT BLAST CUPOLA,**  
(patented March, 1884), and New  
Smokeless and Automatic Feed  
Boiler (pat. 1886, in U. S.).  
Copies of descriptive literature  
sent upon request. Address VICTOR  
COLLIAU, Mechanical Engineer  
and Architect, 287 Jefferson  
Avenue, Detroit, Mich.

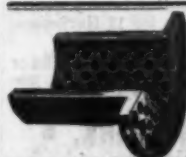
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**Ice-Making & Refrigerating  
MACHINERY,**

ADDRESS THE

**Ring Refrigerating & Ice Machine Co.**

OFFICE:

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ST. LOUIS, MO.**



**OILLESS BEARINGS.**

They will run for years without oil. Perfectly clean. No cutting or danger of fire from overheating. Send for New Circular of interest to users of Loose Pulleys.

North American Metal Co., 37 Bloeker St., N.Y.Cty.

**DON'T BUY AN  
ENGINE  
OR  
BOILER**

Until you have seen our circulars. Engines complete from 5 to 110 horse power, both Vertical and Horizontal, at prices below those of other reputable makers. 1400 is one. Boilers of every style. Automatic Engines for Electric Lights. Centrifugal Pumping Machinery for Drainage or Irrigation. Established 30 years. Perfect satisfaction guaranteed. Ask for Circular M and address

**Morris Machine Works.**

BALDWINVILLE, N. Y.

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## The Markets.

OFFICE MANUFACTURERS' RECORD,  
BALTIMORE, November 20, 1889.

The iron market has been more feverish during the past week than for several previous weeks. Brokers and manufacturers are scarcely able to assign a good reason for the fact. The advancing prices of pig iron during the past five months have resulted in an increase in capacity from 137,000 to 165,000 tons per week in round numbers; this would give an increase in capacity—but not an average increase—of 1,456,000 tons per year. This expansion of capacity has only recently set in, and will probably continue until an exploding point is reached. This is the danger which threatens the iron trade, if it is threatened by any. The stimulus to building new furnaces and repairing and improving old ones has not been so great for many years. Prices are high and advancing. Quotations at Northern tidewater markets are \$17, \$18 and \$19 respectively for forge, No. 2 and No. 1 foundry, although higher and lower prices are paid for quality. Furnace companies North and South are refusing to accept orders for winter delivery. Speculative purchases are reported at several points. Many new industries are springing up, which will call for large quantities of finished iron and steel, all of which reacts upon the pig-iron-making interests, stimulating production. At present 323 furnaces are blowing and a number are being prepared for operation. It is useless to attempt to prophesy as to the outcome, but a fair presumption is that for some time to come the increased production will be promptly absorbed. Of course a great deal depends upon the extent to which railroad building will be undertaken next year. Our information from authoritative sources do not throw much light on that question. The railroad builders, and the financiers back of them, have not themselves fully determined what course to pursue. Their action depends greatly upon the course of railroad affairs, inside and outside of Congress, this winter. The latest sensational reports in the newspapers show that some sort of a grand consolidation scheme has been cooked up abroad for the better management of railroad interests, and in a way that will not interfere with existing legislation.

The expected advance in steel rails has taken place, and \$35 is now accepted generally as being inside price for late deliveries, with a strong probability of a further advance, as Bessemer, spiegelisen and ferro-manganese are rapidly advancing. One lot of 8,000 tons of rails was contracted for at an Eastern mill last week at \$35 for spring delivery. Sales for the week are estimated at 20,000 tons, with inquiries on the market for somewhere between 50,000 and 100,000 tons. It is stated that \$33 has recently been named as early-delivery price on a few large lots.

There is not much to note in other branches of the iron trade, simply because business is booming in every branch, mills oversold, buyers awaiting their turn, prices pointing upward, and everything looks as though this would continue all fall and winter. Whether we look at muck bars, wrought iron pipe, bridge iron or at any other material, the same observation applies. The bridge builders have had their specifications completed for weeks, but are unable to obtain acceptance of their orders within any reasonable time. Plate and tank iron mills are all oversold as they have not been for years. Makers of billets and steel slabs are also advancing prices at their pleasure, and since writing our last report slabs have advanced \$1 per ton in Pennsylvania markets; nail slabs have crept from \$30 to \$36 by dollar steps, and hence steel nails, as well as iron, have been crowded up, and are now quoted at Phila-

delphia at \$2.10 to \$2.30; at Chicago the factory prices are \$2.25, and \$3 to \$3.10 for wire. Throughout the West the same healthy condition of things exists. There are speculative symptoms in some quarters. Merchant steel quotations have been advanced. Bar iron rules higher. Beams and channels are selling in Chicago at 3-70 in stores. Wrought iron pipe mills have as much work ahead as they have had at any time for months. In Western Pennsylvania mills are all running double turn. In the Mahoning and Shenango valleys Bessemer pig iron makers have advanced prices, and are far oversold. In Cincinnati heavy sales of pig iron have taken place. The advance in freight rates on Southern iron will not interfere with the placing of contracts, although for the present it has disarranged some calculations. At Chattanooga prices are being advanced. In Chicago Bessemer iron is selling at \$21.50 to \$22, and Southern No. 1 coke finds buyers at \$17.75.

### HARDWARE.

Since our last issue some additional change in price has occurred. The American Screw Co. have advanced their prices on Norway-Philadelphia tire bolts to 75 per cent. discount; Bay State tire bolts, 67½ per cent. discount; stove bolts, 62½ per cent. discount, subject to usual special discounts as before. Wrought goods have stiffened considerably, and wrought butts are now firm at 75 per cent. discount, the same as strap and T hinges. Copper rivets are very firm, and some manufacturers have withdrawn quotations. All heavy goods are very firm. Carriage bolts are still 70-10-10 per cent. for common, but large orders are not desired by the manufacturers. The demand for goods continues very satisfactory, although the orders are not large.

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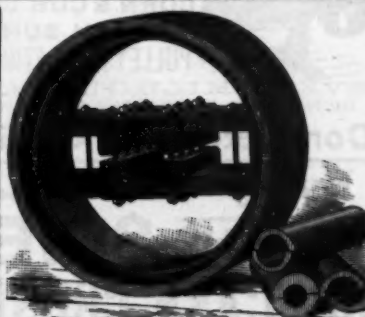
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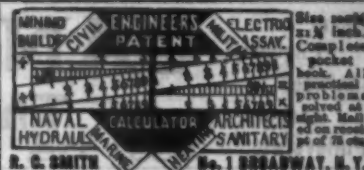
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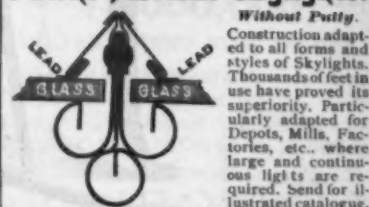
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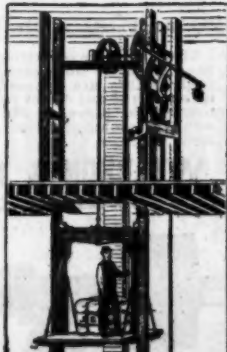
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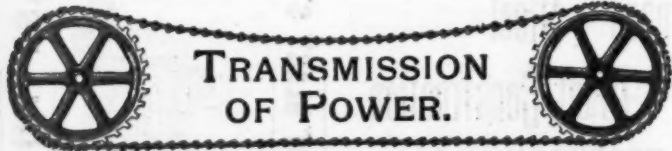
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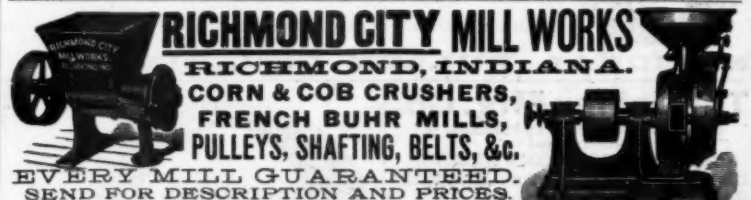
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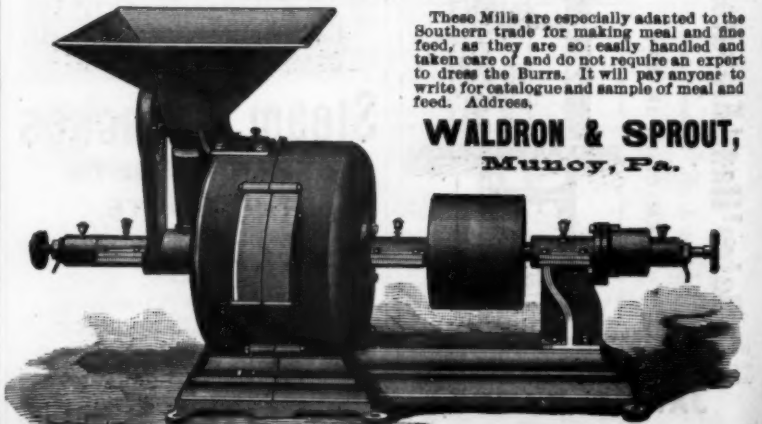
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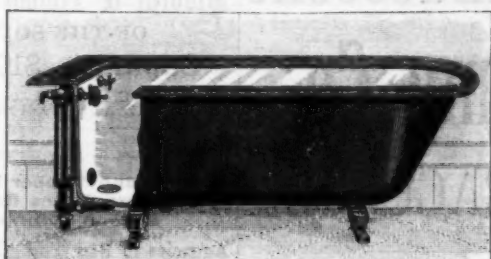
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## Eastern Lumber Markets.

[Spec. corresp'dence MANUFACTURERS' RECORD.]

NEW YORK, November 19, 1889.

The lumber market has undergone some few fluctuations since the writing of the last report, chiefly in the direction of some liberal offerings of lumber on the part of outsiders, and more liberal purchases on the part of retailers where they felt they were making a good purchase. The fact which is kept in sight by New York lumber dealers, and, in fact, by dealers throughout New England, is that this winter is likely to be an unusually active one and prices firm; that is to say, the bulk of buyers are picking up lumber wherever they can just now, as they do not expect any favors from the wholesalers when the winter season sets in. Of course, this general demand is limited to small buyers of material for specific purposes.

The architects are responsible for the introduction of a good many new and rare woods in this market, some of them from the Pacific coast, and some from different points in the South. A variety of beautiful woods now take the place which a few years since was filled by marble, stone or tile work, in interior finishing of dwellings and public edifices of different kinds; floors, ceilings, wainscotings, mantels, etc., are now of hardwoods, and the effect is very fine. The architects have brought this change about and deserve credit for it. Iron is barbarous and harsh, but wood, used with architectural taste and skill, is capable of producing the most artistic effects. These observations are suggested by the lavish use of woods of the finer class in the dwellings, offices and public buildings recently erected in the larger cities. The demand for such woods this year has been over double what it was last year, and those who have taken hold of this branch of the trade expect excellent results from next year's business.

Dropping, however, into the regular line of trade, it is to be noted that prices of most Southern woods will remain firm throughout the winter. So far as we have been able to probe the matter, stocks of yellow pine are light, and will not be very large at any time. Those who control the larger stocks prefer to let what they do not need for immediate delivery remain where it is, in a more favorable climate, drying for future distribution.

The demand for North Carolina sap pine continues very heavy, and a great many small buyers who have heretofore ignored it are now recognizing its merits and advantages, and are taking more of it. The mills there, we learn, are sold up and will have a busy winter.

Some Virginia oak is coming along, and a good deal more is promised. As soon as the railroad companies have more cars at their disposal the lumber car trade will increase. The railroad managers, we learn, will make more favorable, or at least, as favorable rates as they can, in order to encourage shipments. A good deal of lumber comes from the South, and is distributed by way of Harrisburg, and is reaching some far-off points where Southern lumber has never heretofore been seen. Cherry is also coming from some localities in the South and is meeting with ready sale. Popular is not in very abundant supply and is bringing top prices.

The requirements of the markets of the New England and Middle States are being more carefully observed by manufacturers of lumber along the South Atlantic coast and in the interior of the South. This is good for all parties concerned.

Ash is selling quite well, as the furniture manufacturers have all the work they can do; some of the larger concerns, however, have their present wants supplied.

A good deal of mahogany is arriving, and our supply for the winter is equal to all

probable demands. Cottonwood has been coming in, and we learn that a good deal has recently been contracted for in the South. A good many people are trying it in a substituting sort of way, and if it is liked, there will be a large market for it here.

Birch is being turned into walnut by some manufacturers, for the use of people who are not good judges. Chestnut, hickory, maple, sycamore and some other kinds are selling quite well. Basswood is also finding buyers who have been waiting for months to stock up at bargain rates.

It is scarcely worth while to cumber a letter of this kind by quotations, as very few alterations have taken place, and, as a rule, outside prices are paid.

Business at Tonawanda, Buffalo and Albany is booming. Inquiries from interior New England points have been active, and a large amount of lumber is going in that direction. A great deal of factory and house-building work will be done this winter. The industries of New England are all thriving, and the building activity reflects this condition.

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1/6277101735386680763835789423207666416102355444464034512896 in. x 15 ft.; 1/12554203470773361527671578846415332832204710888928069025792 in. x 15 ft.; 1/25108406941546723055343157692830665664409421777856138051584 in. x 15 ft.; 1/50216813883093446110686315385661331328818843555712276103168 in. x 15 ft.; 1/100433627766186892221372630771322662657637687111424552206336 in. x 15 ft.; 1/200867255532373784442745261542645325315275374222849104012672 in. x 15 ft.; 1/401734511064747568885490523085290650630550748445698208025344 in. x 15 ft.; 1/803469022129495137770981046170581301261101496891396416050688 in. x 15 ft.; 1/1606938044258990275541962092341162602522202993782792832101376 in. x 15 ft.; 1/3213876088517980551083924184682325205044405987565585664202752 in. x 15 ft.; 1/6427752177035961102167848369364650410088811975131171328405504 in. x 15 ft.; 1/12855504354071922204335696738729300820177623950262342656811008 in. x 15 ft.; 1/25711008708143844408671393477458601640355247900524685313622016 in. x 15 ft.; 1/51422017416287688817342786954917203280710495801049370627244032 in. x 15 ft.; 1/102844034832575377634685573909834406561420991602098741254488064 in. x 15 ft.; 1/205688069665150755269371147819668813122841983204197482508976128 in. x 15 ft.; 1/411376139330301510538742295639337626245683966408394965017952256 in. x 15 ft.; 1/822752278660603021077484591278675252491367932816789930035904512 in. x 15 ft.; 1/1645504557321206042154969182557350504982735865633579860071809024 in. x 15 ft.; 1/3291009114642412084309938365114701009965471731267159720143618048 in. x 15 ft.; 1/6582018229284824168619876730229402019930943462534319440287236096 in. x 15 ft.; 1/13164036458569648337239753460458804039861886925068638880574472192 in. x 15 ft.; 1/26328072917139296674479506920917608079723773850137277761148944384 in. x 15 ft.; 1/52656145834278593348959013841835216159447547700274555522297888768 in. x 15 ft.; 1/105312291668557186697918027683670432318895095400549111044595777536 in. x 15 ft.; 1/210624583337114373395836055367340864637790190801098222089191555072 in. x 15 ft.; 1/421249166674228746791672110734681729275580381602196444178383110144 in. x 15 ft.; 1/842498333348457493583344221469363458551160763204392888356766220288 in. x 15 ft.; 1/1684996666896914987166688442938726917102321526408785776713532440576 in. x 15 ft.; 1/3369993333793829974333376885877453834204643052817571553427064881152 in. x 15 ft.; 1/6739986667587659948666753771754907668409286105635143106854129762304 in. x 15 ft.; 1/13479973335175319897333507543509815336818572211270286213708259524608 in. x 15 ft.; 1/26959946670350639794667015087019630673637144422540572427416519049216 in. x 15 ft.; 1/53919893340701279589334030174039261347274288845081144854833038098432 in. x 15 ft.; 1/107839786681402559178668060348078522694548577690162289709666076196864 in. x 15 ft.; 1/215679573362805118357336120696157045389097155380324579419332152393728 in. x 15 ft.; 1/431359146725610236714672241392314090778194310760649



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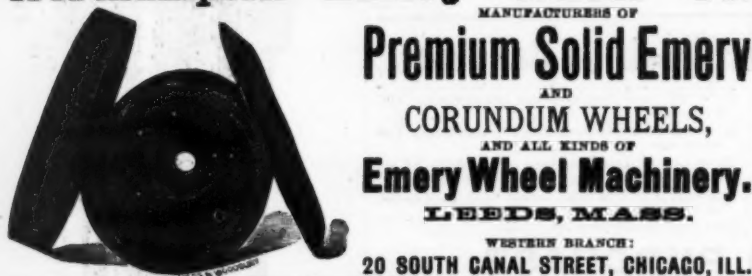
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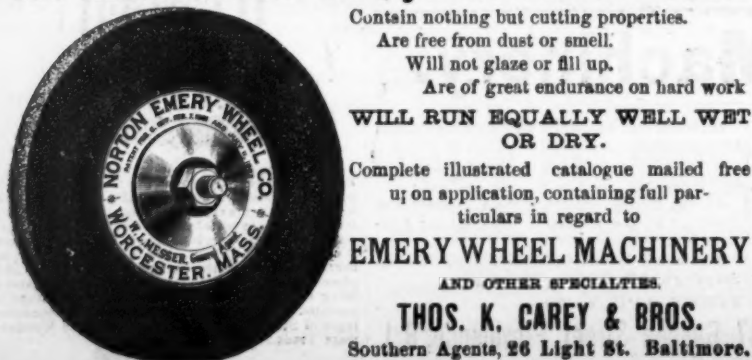
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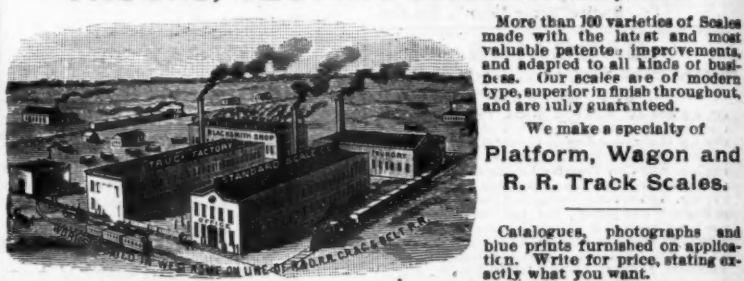
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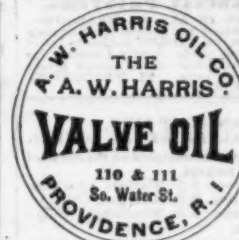
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## TRADE NOTES.

**THE Jeffrey Manufacturing Co.**, of Columbus, O., report a brisk business in the line of chain belting and mining machinery, and they now have under process of erection several large plants. The demand for their several styles of chain belting continues unabated.

**ADVANCES ON PIG IRON.**—Attention is directed to the advertisement in this issue of the Philadelphia Warehouse Co., 235 Dock street, Philadelphia, Pa. The making of advances upon pig iron as a business is a somewhat new financial feature, and the business promises to largely increase. The Philadelphia Warehouse Co. is offered by substantial and responsible gentlemen, and is prepared to make advances on pig iron stored at furnaces or in public warehouses, storage charges being nominal.

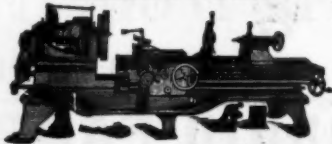
**MINING, TUNNELING AND QUARRYING MACHINERY.**—The Ingersoll-Sergeant Rock Drill Company, office 10 Park Place, New York, issue catalogue No. 8, descriptive of their mining, tunneling and quarrying machinery. The catalogue is a large and handsome publication, filled with excellent illustrations of the company's world-famed machines with thorough descriptions of their features and uses, together with other information of value to engineers and contractors. The Ingersoll-Sergeant drills took the gold medal at the recent exposition held at Paris, and the company's machinery has been employed in many of the notable engineering enterprises of the times.

**STEAM AND HOT WATER HEATING.**—William B. Dunning, of the New York Central Iron Works, Geneva, N. Y., issues his annual circular descriptive of the Dunning patent self-feeding magazine boilers designed for warming residences, schools, churches and public buildings, of which over 14,000 are in use. It is claimed for the Dunning boilers which are adopted for low pressure steam that they stand unrivalled when measured by results. Steam or hot water is now preferred to all other methods of warming buildings on the score of economy and health. The long list of testimonials contained in the circular certify to the excellence of the Dunning system. The circular also contains illustrations of the Dunning portable boiler to be set without brickwork, especially designed for soft coal, the improved direct draft and the hot water and surface burning boiler. Reference is made to any or all of the patrons of the Dunning system.

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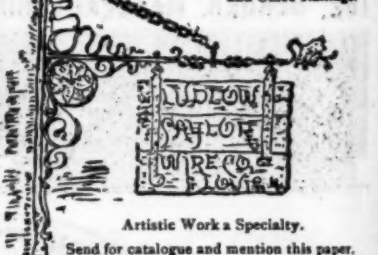
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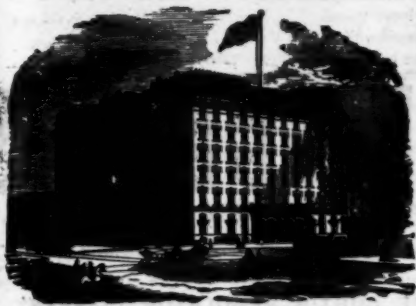
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## TRADE NOTES.

## Slipping Belts.

Users of power all recognize that in the transmission of power by belts there is more or less loss from the belt slipping on the pulley. This varies with circumstances, the brightly polished pulley showing where most of the slipping is. This slipping wears the belt, and it goes without saying that if the belt slips there is loss of power, the engines making revolutions that are not effective on the machinery, while in many manufacturing establishments besides the loss of power, the jerking motion of the machinery from slipping belts breaks fabrics and disarranges material and work generally. Many devices have been put on the market to remedy this evil, but few of which have stood the test required. If resins or thick oils are used as a preventive, it is claimed that they either harden or rot the belt.

A temporary device is the tightening of belts, but this heats and wears the journals, with a consequent expense, and does not remedy the trouble, all users of power recognizing the fact that slack belts, when it is practicable to use them, are more satisfactory than tight ones for many reasons. It will be seen from this that the desirable thing to remedy this trouble is covering which will prevent the slipping effectively, without damage to belt or machinery, that will allow of slack belts, that can be put on the face of a pulley without



the use of rivets or the removal of the pulley from the shaft and, better still, the belt from the pulley. All this and more is claimed for the covering now being put on the market by the National Pulley Covering Co., of Baltimore, Md., which controls numerous patents on pulley covering which has stood the test of four years in many industrial establishments. As every one knows, cork is a substance which it is impossible to wear smooth, and their covering is made from cork, which, when ground to a fine powder, is mixed with linseed oil, and after being subjected to enormous pressure, is put on to a heavy backing of canvas. On this canvas is laid a cement, which is soluble in water and admits of the easy application of the covering to the face of a pulley without removing the belt from the pulley or the pulley from the shafting, and is so powerful that when once set it is impossible to remove the covering except by the use of a cold chisel. This covering has met with the approval of many of the very largest users of power in every industry in this country, the company having in its possession voluntary testimonials from thousands of those who have used it.

It has been officially adopted by the government in the navy-yard, treasury and printing office. Tests which were made in the latter place showed, so it is said, that the shafting made 35 revolutions per minute more than before it had been applied and fully bearing out the claims made by the company. This covering is guaranteed to increase the speed of machinery from 15 to 30 per cent., not only when there is a noticeable slippage, but in cases where

such trouble has not seemed to exist, and besides all this, is of particular advantage in cotton gins, where, from the even, steady motion it gives to the machinery, a longer fibre is obtained.

Flour millers and lumber workers of every description, who probably have more trouble through slipping belts than any other industries, endorsed this covering when it was first introduced and have been large consumers of it ever since. The directions for applying this covering are so simple that any mechanic can apply it with complete success, and only a trial is needed to convince one of its utility.

THE Omaha Motor Railway, at Omaha, Neb., is one of the largest and most important electric railways in the West. Seven miles and a-half of track was the original equipment, but the satisfactory operation of the cars resulted in an extension being made very soon after the first car was put in operation. In constructing the overhead line the cross suspension method was used, the conductor being supported from cross wires attached to poles placed at the curb line a distance of 120 feet apart. The track is laid with Johnson girder rail, with some exceptions in outlying districts where the streets are as yet not paved; in these places T rail is employed. All the rails are reinforced at the joints by copper wire, insuring a perfect path for the return current. The line combines many grades and curves, the former ranging from 3 to 9 per cent. and the latter being from 60 to 75-foot radius. The power station is a two-story brick building, with a small car-house attached. The upper story is used for offices, store-rooms and repair shop, and the lower story contains the steam and electrical apparatus. The building is lighted by 70 16-candle-power lamps, the current being supplied from the same generator that furnishes current for the cars. The electrical plant consists of eight 80 horse-power Thomson-Houston generators, connected to a switch board provided with all the most improved appliances necessary for the manipulation of the current. The steam plant consists of two Corliss engines of 200 and 400 horse-power, respectively, connected to a line of shafting provided with friction clutch pulleys, which renders each generator independent of the other. The boiler room contains six 100 horse-power boilers, steam pumps, heater and other necessary appliances. The cars, which were built by the Pullman Co., are 26 in number, and are each equipped with two 15 horse-power motors. The average car run is 18 hours per day, and the average number of tow car trains per day is 23. There are three car-houses, capable of holding 100 cars, located at convenient places along the line. Each is provided with suitable pits between the tracks, so that the cars can be changed and all necessary repairs readily made, while to facilitate shifting a trolley wire is placed over each track. The Omaha Motor Railway system comprises 40 miles of track, about 26 of which is equipped electrically. The traffic since the electric cars were used has been very heavy indeed, and the performance of the apparatus under severe tests with heavy loads has been all that could be asked. The electrical equipment will be extended as rapidly as possible until the entire system can be operated without the use of horses.

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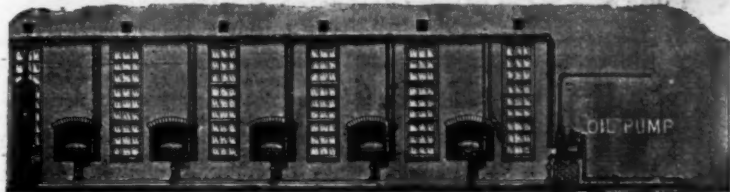
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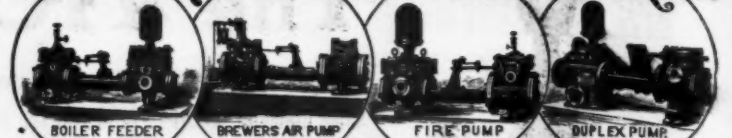
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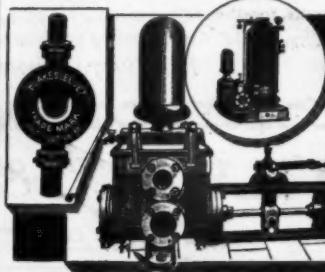
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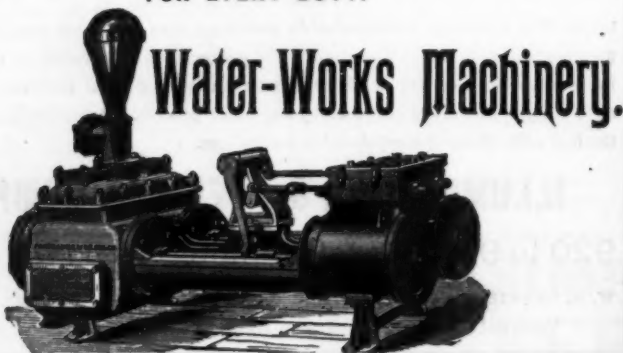
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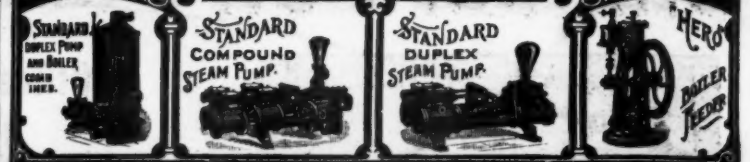
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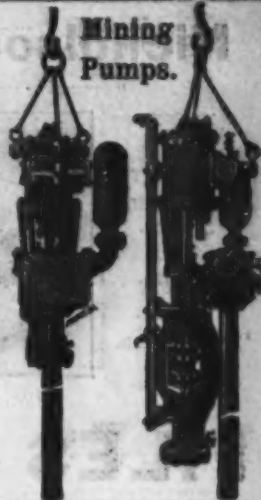
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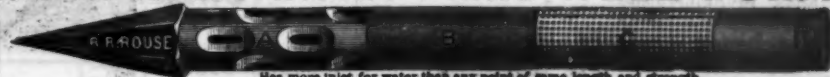
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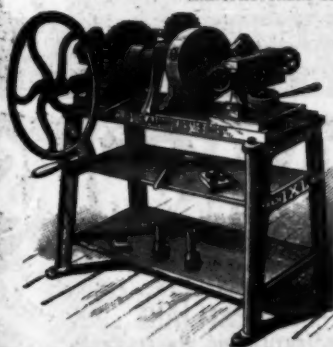


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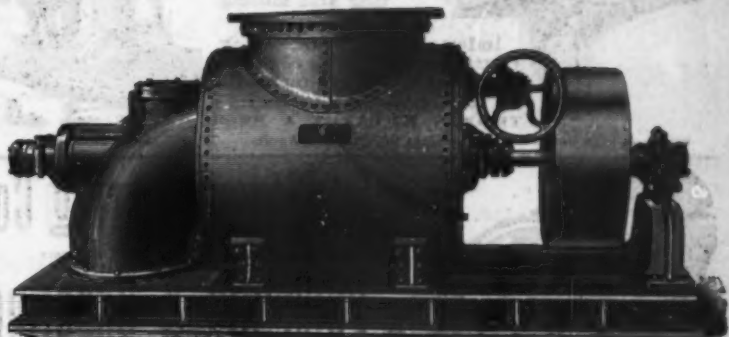
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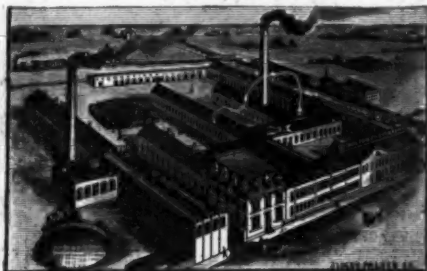
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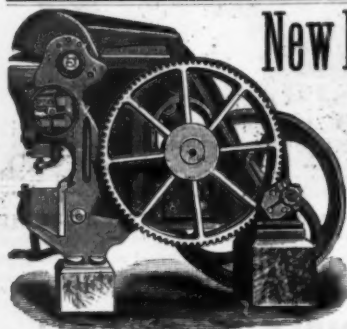
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